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CARE OF THE INJURED HAND*

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It would seem scarcely necessary in this day of mechanization in the factory, on the farm, in the home, to emphasize the tremendous increase in trauma that has come as a corollary to our technological advance. The profession has just awakened to the significance of trauma, to the fact that the surgeon every day is confronted with the problem of injury. All injuries are surgical emergencies, not all of them serious, to be sure, but many present problems of care that would tax the skill of the most proficient. We have also awakened to the fact that by and large training in our medical schools and in our hospitals is usually deficient in just the type of case which the young doctor will be called upon to treat. The need for basic training in the treatment of wounds is not confined to those practicing any particular field of surgery, but exists throughout all of surgery. Injury is universal, and every surgeon should know the general principles of the care of wounds, and should be capable of rendering care commensurate with his training and with available facilities. Care of the injured starts with first-aid, about which physicians in general are not too well informed, and continues through the admission of patients to emergency room or hospital, the handling and diagnosis of the severity of the injury, and the various necessary examinations culminating in decision as to the extent of treatment. At this point, the soundness of the surgeon's judgement may determine the life or death of the patient, the rapid restoration of a limb to function or long months of invalidism. It is here that the surgeon must decide not only what care should be rendered, but also whether he is in a position to carry out that care. Several injuries may be present and priority of care must be established. Even in the case of a single injury, it is sometimes necessary to stage the treatment, accomplishing the most important steps first, and leaving other steps until later, to be carried out under more favorable conditions.

These same observations apply to all wounds, including open wounds of the hand. They, too, are on the increase, and in some industries and occupations comprise 50 per cent or more of all wounds. They, too, may vary from trivial injuries to extensive ones whose repair presents extreme difficulties. While few of them ever threaten life, all of them threaten the function of the hand. Care in the case of simple wounds calls for no special skill. However, in the case of complicated injuries the greatest of skill and judgement are often required to salvage even a modicum of function.

I should like to discuss certain features of the care of open wounds of the hand which seem to me to be important. Many significant details, I am sure, will be omitted, but I shall try to cover the major

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features and to indicate the important steps in care, to emphasize the priorities of care.

Little need be said concerning first-aid except that it consists only in the application of a compression dressing and a splint, and to stress the fact that a tourniquet is very seldom required. The compression dressing almost always will take care of bleeding; a tourniquet as usually applied simply blocks venous return and promotes hemorrhage.

The diagnosis of the extent of the injury is made by inspection, supplemented of course by x-rays where indicated. The wound is never probed or the borders retracted to discover divided nerves and tendons. The division of these structures is discovered by examination for motion and sensation. A general physical examination and blood and urine tests are carried out on every patient who is to get a general anesthetic and the surgeon makes sure the patient's stomach is empty, by lavage if necessary.

Operative care of the wound is done under operating room conditions even for apparently trivial wounds. The severe injuries are, of course, cared for in the operating room, usually under a general anesthetic.

Operations on the hand are carried out in a bloodless field secured by means of a blood pressure cuff. The hand is elevated for a few minutes, and the cuff is then rapidly inflated to 280 to 300 mm. Hg. This is maintained until the surgeon has completed the cleansing and wound excision, and is then released. After a few minutes of release, the wound is inspected, bleeders caught and ligated, and the cuff is again inflated and the operation completed. The cuff is finally released only after the compression dressing is applied.

The wound is prepared for operation simply by washing carefully with warm soap and water for from ten to twenty minutes, and is then draped for excision.

The excision of devitalized tissues is one of the most important steps in its care, and must be accomplished in all wounds. It has top priority in the treatment. It is the surgeon's aim in carrying out this excision to remove all tissue so severely damaged that it cannot survive. The decision is often not easy to make since appearances may be deceptive and removal, especially of skin, may produce difficult problems of closure. There must be no needless sacrifice of tissues, nor should hopeless tissue be left behind. If we know the severity of the injury, we have some clue as to the extent to which the tissues have been devitalized. For example, a skin flap crushed under a heavy weight is probably destined to necrosis, whereas extensive tears may disrupt, but not necessarily kill tissues. If we watch the return of blood flow into the hand after release of the blood pressure cuff, we can often detect, in the reactive hyperemia which follows, vascularization in areas which previously seemed without blood supply.

A common temptation is to replace large flaps of skin which have been avulsed from the dorsum of the hand or palm, or to slip the skin back over the fingers following degloving injuries. Occasionally such flaps will survive, but the keenest of judgement is required to know this, and suitable aftercare of these flaps is necessary. The degloved skin practically never survives and serious wound disturbances follow its replacement.

Great conservatism should guide the surgeon in the amputation of digits. They are often difficult to repair, and they often seem hopeless from the standpoint of function. However, we are frequently surprised at the amount of use a patient can secure from what seemed at first to be a useless finger. Very occasionally, when only one digit is involved, amputation may seem to be the wiser course, but even here it is often better to delay removal even if amputation is eventually required. The only absolute indication for amputation is an avascular digit.

The greatest of conservatism is practiced when it comes to excision of nerve, bone, and tendon. Crushed nerves will

often survive. Bone attached to bits of surrounding soft tissue is usually useful in later reduction and molding of fractures. Tendon is not sacrificed unless its inserting digit is gone.

While the process of excision is going on, the surgeon should permit his atraumatic conscience to rule. Surgical trauma leads to tissue necrosis just as surely as does accidental trauma. Gentleness in handling tissues is a lesson that should be learned early in surgery, and should become an unconscious habit just as is the observance of asepsis.

The extent of repair of the damage, that is, the reconstruction of the hand to restore a functioning member, is guided by several considerations. In the first place, the surgeon should not feel that extensive reparative procedures should be carried out unless conditions are satisfactory. Primary healing is essential at all stages of repair, and, hence, the limits of surgical procedures are determined by the amount of repair the tissues will stand and still heal kindly. It is necessary to secure primary closure of the wound and occasionally primary closure precludes extensive reconstructive surgery.

The repair of divided tendons may present a difficult problem, since exposure of the tendon stumps usually demands accessory incisions into uninvolved tissues. Unless the wound is seen fairly early, and unless conditions are suitable, primary tendon repair is best omitted. Repair of tendons over the site of an open fracture is seldom feasible, although it is occasionally permissible to suture the extensors of the fingers over open fractures. There should be flaps of skin and subcutaneous fat to cover the site of tendon repair. There is a great deal of discussion today as to the indications for primary suture of the flexor tendons within the digital sheaths. It is my feeling that if the patient is seen within two hours or so, if the wound is clean and, if it has not been tampered with, primary repair is permissible and offers good chance of success. Of course, only the profundus tendon is repaired and the sublimis stumps are removed. Where division involves only the profundus tendon distal to the sublimis insertion, primary suture is indicated without, of course, excising the sublimis, and in these cases the outlook is favorable.

Repair of tendons in the palm and wrist and over the dorsal surface of hand and fingers can usually be undertaken safely up to from four to six hours after injury. Some have felt that the antibiotics have increased these time limits, and the results reported by Flynn seem to substantiate this contention. However, it seems to me that one cannot be certain that penicillin will protect against all possible wound contaminants. Just as important, too, is the fact that secondary repair is possible in three to five weeks if the wound has healed satisfactorily.

Divided nerves should be repaired in all but frankly infected wounds. These should be the first structures sought for when the wound is examined at operation, and should be carefully identified so as to avoid damage during further dissection. It is here that a knowledge of anatomy is important, since it is not just the large trunks that must be isolated and repaired, but the smaller rami as well. The digital nerves, being purely sensory, regenerate rapidly after proper suture. Likewise, the motor rami of the median and ulnar, being pure motor nerves, regenerate most gratifyingly when sutured.

Most fractures are reducible by molding the hand into the position of function over some properly shaped splint. This method is especially valuable in case of the extensive crushing injuries in which skin replacement is necessary and in which a large compression dressing is indicated. It is not necessary, of course, to immobilize the whole hand if only one finger is fractured, but here, too, the finger should be placed in the functional position for reduction and maintenance of reduction. One always takes this opportunity to add further condemnation of the banjo splint which should *never* be used.

All open wounds of the hand should be

closed at the initial operation. If possible, this closure should be accomplished by suture, and it is at this time that the surgeon will be happy that he has saved all viable skin tags and flaps. It is often possible to dovetail irregular flaps and secure satisfactory if not beautiful closure with hand skin. If sufficient skin is not available for closure by suture, there are several alternative methods to which the surgeon has recourse. Split grafts of various sizes can be removed from the forearm, if only a small patch is required, from the thigh if larger sheets of skin are needed.

Not infrequently bones and joints are left exposed and tendons lie in the open field. It is not possible to cover these structures with free grafts. In such instances, a sliding or rotation flap is often of great value, and, with experience, the surgeon can frequently shift tissues from one side or the other to cover these sensitive structures, covering the donor area bed with split grafts. If such flaps connot be properly swung to cover the exposed bone ends or other structures, the pedicled or pocket flap is necessary. A flap with a broad pedicle can be raised from the abdominal wall and the hand inserted beneath it. It is somewhat awkward to resort to a flap if there are fractures to be held in reduction or if tendons have been repaired. Nevertheless, the surgeon should not hesitate to resort to a pedicle flap in the rare occasion where it is needed, since it may be the only means of saving a hand or digits.

The compression dressing which is applied at the end of the operation serves manifold purposes. It is applied before the blood pressure cuff is finally released so as to discourage or at least minimize the capillary oozing which may occur. The surgeon must not depend upon compression for actual bleeding from sizable vessels—these should be taken care of during operation by ligation of vessels as they are encountered. The compression tends to restore pressure relationships in the tissues, to support and promote venous return, to obliterate dead spaces and minimize, if not prevent edema.

The compression dressing is applied carefully, using large amounts of fluffed gauze or other resilient material; it is firm and even, not tight and constrictive. Special attention should be given to placing gauze between the digits and between the thumb and the side of the hand, as well as to tucking gauze into creases or skin folds, since maceration may occur and lead to infection. The woven elastic bandage is a convenient aid here, but the essential features of the compression dressing are large amounts of resilient dressing material and firm even compression.

Concurrent with the compression dressing is the application of a splint. Wherever possible, the hand is splinted in the position of function, or if only a couple of fingers need be put at rest, they are splinted in the position of function. This is the grasping position, and the value of placing the hand in this position can scarcely be overestimated.

The exact limits of splinting cannot always be accurately defined for each tissue or every case. Too long periods favor stiffness and delay functional recovery. Too short periods prolong healing by disrupting areas of healing and promoting scar. Splinting is kept up until the tissues have healed solidly enough to take over their proper function. This may mean eight to ten days for skin wounds, three to four weeks for nerves and tendons. Another principle is that as far as possible only those tissues which require splinting be kept at rest. Joints whose motion does not affect the injured part should be moved at the earliest possible moment and kept moving.

If tendons have been repaired, they are splinted in relaxation; flexor tendons in flexion; extensor tendons in extension. This relaxation is maintained for a period of three weeks (slightly longer for the extensor tendons), following which use of the involved fingers is permitted, although a wrist splint is worn for another week

to prevent over-extension or over-flexion.

Following nerve repair, the ends are kept relaxed for some three to four weeks to permit firm union. If motor nerves are involved, the muscles supplied by the nerves are maintained in relaxed position to prevent overstretching by unopposed antagonists.

Ordinary soft tissue injuries require from eight to ten days of rest, while bones (except the carpals) are usually firm in three to four weeks.

The after-care of the hand is of great importance, and I do not mean just the immediate after-care, but the observance and guidance of the patient until he is ready to return to work. Healing of the wound requires appropriate rest, and the limits of usual splinting have been alluded to previously. Inspection of the wound on the fourth or fifth day, without disturbing position, is occasionally indicated if the patient perspires a great deal, or if tiny rubber strip drains have been introduced into the wound and require removal. Sutures are usually out on the eighth to tenth day, and by this time simple soft tissue injuries require no further splinting, and use is permitted. During the third or fourth week, patients with tendon repairs start motion. Simple home therapy is carried out, warm, soapy soaks, i. e., hand-washing in warm soapy water for four or five minutes, four or five times a day are started early to promote circulation and to mobilize joints.

The patient is encouraged to start active, purposeful use of the hand early, and is made to feel that he is to return to work as quickly as possible. Obviously, in some instances, many months are required to return a patient to work and here the task of keeping up the patient's morale falls on the surgeon's shoulders. Physical therapy by an understanding physical therapist is invaluable, but heat and massage and passive movements are not enough. Purposeful, active use, guided by a will to recover, is the most valuable physical therapy we have.

Finally, in assessing the results of surgery, and in measuring recovery of function, time is a valuable ally. What seems like a passable result in three months may be good at a year and excellent in two or three years. The surgeon should not be too hasty in reaching the conclusion that final recovery has been obtained.

TREATMENT OF CHRONIC DISCOID LUPUS ERYTHEMATOSUS WITH ATABRINE *

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PRELIMINARY REPORT

The effectiveness of atabrine in chronic discoid lupus has recently been reported by a few investigators. Popoff and Kutinscheff [1] were apparently the first to recognize its effectiveness in this condition. They presented 6 cases, at a meeting of the Sofia Dermatological Association, in 1941; these patients showed remissions of their disease while taking this drug. More recently, Francis Page [2] described 18 cases treated with atabrine hydrochloride, with only 1 case failing to improve. In this country, Wells [3] produced remissions in 9 out of 12 cases; Cramer and Lewis [4] had good results with 5 out of 6 cases. Sawicky et al.[5] report 21 cases with prompt and definite improvement. Six cleared completely and have not relapsed. Three failed to respond satisfactorily, or relapsed either during therapy or shortly after its cessation.

We have combined in this report the cases treated in our private practice with those observed on our services at the Louisiana State Charity Hospital. In all, 27 cases have been observed for a sufficient length of time to make practicable a few

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observations on the use of atabrine in this condition.

There were 18 cases of the chronic discoid variety without much evidence of scarring.

Twelve of these responded very well to this therapy. Their lesions were markedly reduced in number, the papular lesions flattened out, and erythema disappeared, leaving a flat, lightly pigmented area. This was true in spite of the fact that no special effort was made to protect them from the sun other than the use of sun protective creams. Ten of the 12 are still on the drug, however, and only 2 of these 12 have been able to stop the drug entirely. Since all but 2 of the 12 had received gold and bismuth therapy without much benefit, they were delighted with the apparent cures with atabrine, and the ease with which it is given in comparison to the gold and bismuth. Not one of them objected to the yellow color of the skin. We agree with others that improvement is directly proportional to the depth of skin staining from atabrine.

Four of the 18 patients relapsed while still on atabrine therapy, and bismuth and gold therapy was substituted. These must be classified as failures.

Two of the 18 patients relapsed extensively within five days after therapy was discontinued. Retreatment was not as successful as was the first course of therapy. Both relapsed even while their skin retained a deep stain.

There were 6 cases in which heavy, thick, hyperkeratotic scarring was the predominant feature of the disease: In 2 of these there were new erythematous lesions present, which disappeared with atabrine therapy. The other 4 cases showed little response other than a possible slight reduction in the amount of erythema present in the scars.

Two cases of chronic disseminated lupus erythematosus with subacute flare-ups received atabrine therapy. In one the result was good and in the other there was not much improvement. Both had received this therapy for four weeks.

One case of the Senear-Usher form of the disease had reached a static condition with cortisone and ACTH therapy, but atabrine brought about further improvement.

One of the discoid cases without scarring was of particular interest. He was unable to take bismuth and gold because of severe reactions. The lupus was spreading at a rather alarming rate. An additional discouraging factor was a family history in which a younger sister had died of acute disseminated lupus erythematosus in 1943, and a maternal aunt was in the hospital with acute disseminated lupus complicated by pregnancy. The first course of therapy, consisting of two hundred 1½ grain tablets of atabrine cleared him up completely. He had a recurrence within three weeks, and retreatment with atabrine is proving to be less beneficial than the original treatment.

Two cases, which were of the chronic discoid variety with little scarring had full time outdoor employment with maximum exposure to sunlight. One of these was a railroad car repairman (welder). He had lesions on face, back, chest, and arms, which cleared up almost entirely under atabrine therapy, in spite of the fact that he has maintained a full work schedule. The other is a shrimp fisherman, who, had a sun type of lupus with a scattering of lesions on his forehead and temple regions, which had been present only a short time. The lesions cleared completely on atabrine therapy, although he has continued to work daily at his regular employment. His skin staining was deeper than any of our other cases.

DOSAGE

It has become more or less customary to give one tablet, 1½ gr. (0.1 gm.), three times a day for one week, then one tablet twice daily for one week, or until the skin is stained a deep yellow color. A maintenance dose of one tablet daily is then given. In most instances blood counts were made at the end of each 100 tablets.

Reactions have been minimal. One pa-

tient had a mild general toxic type of erythema which cleared up promptly when the drug was discontinued. He subsequently resumed treatment on his own initiative, as he felt that he was getting a recurrence of the lupus. There were no further difficulties with his rash.

The usual reactions encountered by others were reversible upon discontinuing the drug. They consisted of a rash on the palms (hyperkeratotic), soles, and thighs, with itching. Sawicky,[5] however, appended to his article report of a death due to aplastic anemia in a case of lupus erythematosus treated with atabrine. I have discussed the reaction phase of this drug with some of the internists and men who had vast experience with its use in the armed forces, and all are of the opinion that it is an extremely safe drug to give. Brunsting felt that it should not be used in the acute disseminated variety of the disease, as he had observed apparent bad effects from its use. Others have employed it in this type with benefit.[2, 3]

MODE OF ACTION

The probable mode of action was discussed at length by Page. He felt that atabrine reduced light sensitivity, and proceeded to show some studies demonstrating the effect of atabrine on the minimal erythema dose of ultra-violet light. After ten days of atabrine, the M. E. D. was as much as four times as great as before treatment, returning to near normal within ten days after it was discontinued. Use of 1 per cent atabrine ointment had no effect on the M. E. D.

CONCLUSIONS

1. Atabrine is effective in the treatment of discoid lupus erythematosus. It is particularly useful in that it can be given without the necessity of too frequent observation of the patient. It has little effect on scarring.

2. It is economical.

3. It is safe to use.

4. Recurrences, when they do occur come soon after the drug is discontinued (one, within five days).

5. Retreatment is apparently not as effective as the original course of therapy.

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DISCUSSION

Dr. Leslie K. Mundt (New Orleans): This paper, along with several other reports recently published, confirms the beneficial effects of atabrine in discoid lupus erythematosus. Drugs have been used empirically with success over and over again throughout the years and this has resulted in significant advances in every field of medicine. On numerous occasions some new treatment has led to knowledge of the cause and nature of the disease for which it was used. The atabrine treatment of lupus illustrates that as practicing physicians we should be alert and eager to investigate and experiment with new methods of therapy. The important factor is that the treatment must benefit the sick patient. Its rationale can be worked out later on.

The status of the treatment of discoid lupus erythematosus prior to the introduction of atabrine was well summarized by Michelson in his paper on discoid lupus at the Academy of Dermatology some three years ago. He stated that there was no treatment then in use that had the slightest effect on the disease. Most of us in this room would agree with that statement.

My introduction to atabrine in lupus erythematosus goes back several months. In the *Schoch Letter*, Callaway reported the experience of a physician who used the drug successfully in one of our Army Hospitals in Germany. Callaway added some cases of his own and confirmed this encouraging report. Since then I have treated some 20 patients with atabrine and consider it the treatment of choice for the disease. All of my patients have been helped and about half of them have cleared up 75 to 100 per cent. All have remained clear on a maintenance dose of 100 mgm. two or three times weekly. In those cases in which the drug has been discontinued it is too early to know about the percentage of relapse. Atabrine seems to especially benefit the mild, edematous, patchy, sun-sensitive type of case that is seen so often on the exposed areas.

As far as I know the mode of action of atabrine is not known. It is interesting that two antima-

larial drugs, quinine and atabrine, are used and have been found effective in this disease.

Severe reactions to atabrine have been reported recently so that patients should be checked carefully, especially for an early blood dyscrasia. These reactions probably follow the initial large doses because hundreds of thousands of troops in the Pacific during World War II received the drug in doses of 100 mgm. daily for many months without any reported serious reactions.

Most authors have stressed that atabrine is recommended only for discoid lupus erythematosus and that it does not benefit the other forms of the disease. Brunsting has actually warned against its use in subacute and acute systemic lupus.

In addition to atabrine, Goldman in a communication in the May *Schoch Letter* now reports the effectiveness of chloroquine diphosphate in discoid lupus erythematosus. It is of value although it acts slower than atabrine, and it is definitely less toxic. It is given in dosage of 0.25 grams twice daily for seven to fourteen days and then once daily for two to three months. The toxic reactions are of a minor nature such as headaches, weight loss, nausea, and diarrhea. It does not stain the skin and there are no severe systemic reactions. Those who cannot tolerate atabrine can be changed to chloroquine. Chloroquine is used in the treatment of amebic hepatitis and extensively in malaria so that here is another antimalarial drug used in discoid lupus.

THE MODERN TREATMENT OF ACNE VULGARIS *

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This presentation, a summary of modern therapeutic facilities, should interest two types of practitioners. The first group includes those who tell their patients that "nothing needs to be done; nothing can be done; you will outgrow this condition." The second group comprises the more enlightened practitioners who are aware of the need of successfully treating a disease of such high morbidity and prevalence.

Acne vulgaris, a disturbing, often disfiguring disease, affects approximately 80 per cent of our population at puberty.[1] Sequelae, in the form of aesthetic disfigurement, emotional reactions, psychic and cutaneous scars, are obvious in all social levels of every community. Although common in all climates, acne vulgaris is more prevalent and severe in hot, humid climates. During World War II, physical disability produced by acne was reflected in rejection at induction centers, limitation of type of service, high incidence of acne at sick calls, a notable number of hospitalized cases, releases from service, and compensation cases.

Because of a desire to establish a sole cause and to direct treatment accordingly, progress in the treatment of acne vulgaris has been delayed for decades. Although the cause is unknown, at the present time, the belief is that acne vulgaris is due to multiple factors. The scope of this presentation is too limited to discuss the pathogenesis of the condition other than to state that the disease involves the pilosebaceous glands of the skin, the dysfunction of which may be due to a number of external and internal influences.

The following list of therapeutic measures, far from complete, contains the currently popular approaches to the problem of acne and represents the various facilities used in the author's practice. Several original measures are included and the author's experience with Kutapressin ® is discussed in detail.

SYSTEMIC MANAGEMENT

The importance of a complete history and physical examination cannot be too strongly stressed, and of no less importance is the psychological approach. Upon the initial visit, effort should be made to establish optimism, patient-responsibility, and to prognosticate exacerbations and rationalize them for the patient. Health deficiencies must be corrected with particular attention to proper diet and the regulation of eating habits and weight. Sufficient and moderate exercise is important. Possible foci of infection must be checked. In the presence of a low-grade anemia frequently related to acne, the use of ferrous sulfate, vitamin B_{12} or folic acid, is advised. If the basal meta-

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bolic rate is low, thyroid is indicated in selected cases and is of special value in cystic or nodular acne.

As a disturbance in ratio of hormones is thought to be one of the main factors of acne, estrogen is indicated in patients 18 years of age or older when there are associated menstrual disturbances. Sometimes estrogens are of benefit in male cystic acne. The drugs recommended are: (1) diethylstilbestrol, 0.5 to 1 mg., daily orally; (2) premarin,® 0.625 to 2.4 mg., daily orally, and (3) antuitrin® (chorionic gonadotropin) in adult acne. Antibiotics are given when pyoderma complicates, or in so-called pustular acne. Neomycin, bacitracin or bacitracin-polymixin combination are used locally. Penicillin or sulfonamides should never be used locally. Preferred systemically, is oral penicillin, 200,000 to 400,000 units of the "long acting" type. In severe cases, unsuitable for penicillin, aureomycin or terramycin may be used.

Autogenous or "stock" vaccines are used routinely in pyodermic cases or following antibiotic treatment to prevent relapse. Vitamin A is given if comedo formation is dominant and discontinued after three months. Recommended are the water miscible preparations, aqua sol A (U. S. Vitamin Corp.), acon (Endo Products), vi-alpha (Lederle) 75,000 to 150,000 units per day orally.

EXTERNAL MANAGEMENT

It is important that the patient receive instructions as to proper method of washing the skin. Office treatment includes the use of ultra violet light (alpine or cold quartz lamp) 2 to 3 times per week, graduating to erythematous or peeling dosage. The average initial dose is thirty seconds to each half of the face at a distance of 30 inches. X-ray treatment is probably the most valuable approach and is essential when others fail. It is important that this be given by a qualified specialist and as an adjunct to other dermatological treatment. X-ray therapy should never be given simultaneously with ultra violet light treatment.

When necessary, incision and drainage of lesions is done, with minimal incision of papules, nodules, and pustules. Cystic lesions require wider incision. When the comedo "sack" is ruptured, its contents are expressed with a comedo expressor. Scar bridges between double comedos are cut. For necrosis of the center of lesions, carbon dioxide snow stick or light desiccation is used. Peeling measures include: (1) phenol, (2) carbon dioxide snow slush technique, and (3) ultra violet radiation. Scars may be managed by the following methods: (1) marsupalization of indolent cystic, deep-seated areas; (2) paring of scar-bridges with scissors or scalpel; (3) phenol; (4) carbon dioxide snow; (5) desiccation; and (6) sandpaper technique, a practical and satisfactory method for office use under local anesthetic.

For home treatment, hygiene is stressed and the following soaps advised: acne aid detergent soap (Stiefel), basic sulfur soap (Duke), and cosmasul (Cosmata). Local treatment must be cosmetically desirable and lotions are preferred over creams. Where "show" lotions are undesirable, it is best to use: rescorcin 2 to 5 per cent; salicylic acid 2 to 5 per cent, in alcohol 70 per cent. Lotions found satisfactory are: surco lotion #1 (Alma Laboratories) and sulforcin (Texas Pharm.). Types of creams recommended are acnomel (Smith, Kline and French) and sulforcin base (Texas Pharm.). When acne has been controlled, treatment containing sulfur and resorcin is discontinued and the following vehicles are advised: surco lotion #2 and foundation lotion for oily skin (Almay). Only in severe acute cases are the following compresses indicated: vleminchx solution; Burow's solution, and saturated solution of boric acid.

RESULTS WITH KUTAPRESSIN®

The rationale for the use of crude liver extract in treating acne vulgaris has not been established; however, many dermatologists believe it to be of benefit. Sutton [2], in 1928, first recommended crude liver extract for this condition and others including Stokes [3], Andrews [4], and Mitchell

Heggs [5], have reported similar success.

In an attempt to determine the usage locally of this agent, members of the Louisiana Dermatological Society were sent the following questionnaire; "Do you find crude liver injections helpful in the treatment of acne?" Of 23 replies, 11 answered yes, 10 no, and 2 had no experience. Since crude liver is used in the treatment of seborrheic dermatitis, this form of acne associated with marked seborrhea would be expected also to respond. In the author's personal experience, such cases are most apt to benefit by this drug. Encouraged by these and similar reports Marshall [6] was led to isolate a substance from crude liver which he thought to be "S" (skin) or antiacne factor. Because of its vasoconstrictor action in the skin, this substance was called kutapressin.®

Marshall's success with the use of kutapressin ® has been confirmed by other investigators whose reports, however, were based on relatively small series of cases. A large, well-controlled group of 157 cases in military personnel was treated by Knox [7] and observed by the author while serving as Civilian Consultant in Dermatology at a large Air Force Base. Other than kutapressin ® these cases received minimal treatment including frequent washings of skin and hair, low fat diet, occasional acne surgery, and infrequent local and systemic antibioties. No hormones, vitamins, lotions, vaccines, or radiation were used. The average dosage was two or three times per week. Fifty-seven per cent of the cases showed good or excellent response; 30 per cent were moderately improved; 7 per cent slightly improved, and 6 per cent unimproved. Photographs taken before and after treatment of more than 40 cases confirmed the clinical deductions. Knox was impressed by the satisfactory response of cystic acne, usually refractory to treatment, and Nierman's [8] experience was similar.

Concurrently with the treatment of the above group, the author substituted kutapressin ® in the treatment of 76 private cases. Some of these were old cases that had been on liver; others were new cases started on kutapressin. The majority of the group received 2 cc. in one injection weekly as an adjunct to other methods thought to be indicated in individual cases. Knox's success was not duplicated. This may have been due to the low dosage given. Those few cases able to come to the office two or three times per week for treatment did show more improvement.

It is the author's impression that kutapressin ® was most effective in skins with marked erythema. This confirms the cutaneous pressor effect reported by others. Severe acne and seborrheic states remained refractory. It was difficult to appraise the patient's subjective evaluation of the drug since it lacked the painful characteristic of liver. It is significant that a number of patients who took injections at home through self medication three or more times per week responded more favorably. This seems notable since these patients were on a restricted therapeutic regime of home treatment. No untoward reactions to the drug were noted. Knox's [15] experience was similar. Duration of treatment was from six to twelve weeks. Before this study was completed the supply of kutapressin failed and the patients returned to liver injections with no appreciable alteration in their progress. The exceptions were those with marked seborrhea, who improved; a few with prominent erythema requested a return to kutapressin.

COMMENT

The above listing of therapeutic measures is offered to emphasize that sound and well-established approaches to the acne problem do exist.

Individualization rather than routine treatment is urged by the author. Some mild cases may respond to improved hygiene, while others require all known therapeutic approaches. Acne, most common in youth, should be treated without adversely affecting development. Rigid and prolonged dieting may be deleterious to the patient and aggravate the condition, thereby defeating the purpose of therapy.

The old axiom, "Treat the patient and not the disease," is most applicable. The success obtained by the author with crude liver seems to justify its continued usage, although a satisfactory rationale remains unexplained. The benefit derived may be due to a tonic effect which seems indicated in the majority of cases. It is the author's opinion that crude liver extract is preferred to multi-vitamins in that the latter, although given conscientiously by the practitioner to improve general health are prone to aggravate acne. Among the disadvantages of liver are its painful reaction, occasional localized and generalized allergic reactions, and its unsought but often confusing hematopoietic effect. Whether or not it is the antiacne factor in crude liver, kutapressin ® has been shown in previous reports and in the author's personal observations to be of adjunctive value in the treatment of acne. Further studies are necessary to determine which cases should benefit, and what is the correct dosage. It is hoped that refinement in production will lead to a more concentrated and less expensive drug.

SUMMARY

Acne, a disease of high morbidity and important sequelae, must be treated. Modern measures are summarized. Kutapressin, a new adjunctive drug in the treatment of acne, is discussed and experience with its usage is given.

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INTRAOCULAR FOREIGN BODIES AS A SURGICAL EMERGENCY *

LOUIS A. BREFFEILH, M. D. †
SHREVEPORT

Since World War II, many articles [1-5] have been published on the subject of intraocular foreign bodies. This subject has been thoroughly discussed in regard to diagnosis, localization, and preoperative and postoperative treatment. The importance of the time that has elapsed between the entrance and the removal of the intraocular foreign body has not been given sufficient consideration.

In studying the eyes that were removed because of the presence of a retained foreign body, firm fibrous attachments to the vitreous and the retina were always found. These attachments were a result of the body's defenses to a foreign substance by exudative and cellular response. This "walling-off" of the foreign body results in a decrease in the magnetic attraction. Since most foreign bodies are magnetic and small, it is imperative that the surgical removal be completed as soon as possible. In those cases in which a foreign body has been retained for a long time it is often necessary to surgically remove the surrounding vitreous along with the foreign material. This procedure usually results in an escape of a portion of the liquid vitreous. Lancaster [6], Guy [7], Hull [8] and many other observers have stressed the importance of early surgical removal of intraocular foreign bodies.

HISTORY

The history is important only if the patient is aware of an intraocular penetration. The course of the foreign body and the type of material that may have entered the eye may be obtained from the patient. Very often the patient does not know of the presence of an intraocular foreign body. In the 6 cases presented, 2 patients were not aware of intraocular

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penetration. One thought a drop of oil had entered his eye while he was working on the crank shaft of a truck; the other sought medical attention twenty-four hours after the injury because of an irritation of the eye. During routine examinations 2 other patients were found to have evidence of ocular penetration. The first patient had a small corneal scar near the limbus. A second retinal scar was found that indicated that a foreign body had traversed the eyeball. He was unable to remember any ocular injury. The second patient was seen on consultation for a chronically inflamed eye. A small tear was discovered in the iris and the diagnosis was confirmed by x-ray examination.

EXAMINATION

The examination of the eye of a patient with a suspected foreign body must be complete. The external gross examination should be carried out with proper illumination and magnification. A slit lamp should be used for a more detailed study. The pupil should be widely dilated, and a thorough internal examination should be completed with the ophthalmoscope. The foreign body can often be seen and easily localized. The presence of vitreous and retinal hemorrhages usually indicates an ocular penetration. A gonioscope may be used if the foreign body is localized in the anterior chamber. On several occasions the use of the hand magnet has aided in localizing the foreign body. This procedure should be used with extreme caution and only in those cases in which the foreign body is free in the anterior chamber.

X-RAY LOCALIZATION

X-ray studies may be completed when the patient is admitted to the hospital for emergency surgery. The anterior, posterior, and lateral views may be sufficient for medicolegal purposes, but once a foreign body has been diagnosed the localization should be completed. The Sweet localization method is preferable, but when the special equipment needed for this procedure is not available, the wire ring method may be used. A wire ring from 22 to 26 mm. in diameter, can be made from a strand of wire available in most operating rooms. The ring is then placed in the conjunctival cul de sac under ½ per cent pontocaine anesthesia. The patient is then instructed to look up and then down in order that two x-ray exposures may be superimposed on one film. A shift of the foreign body may be easily seen on the x-ray film. One can determine the approximate location of the foreign body by this method. A dental x-ray film placed at the inner canthus will confirm the diagnosis of a foreign body in the anterior chamber.

SURGICAL PROCEDURE

Upon completion of the localization, the surgical approach must be considered. If the foreign body is in the anterior chamber or lens, the anterior approach is preferred. If it is located in the vitreous or retina, it may be more easily removed by the posterior approach. Each case is an individual problem and must be considered as such. If the foreign body is located in the anterior chamber, either a limbal incision or a widening of the wound may be satisfactory for its removal. Occasionally, it is imbedded in the iris and an iridectomy may be necessary. If the anterior capsule of the lens has been penetrated, as much of the lenticular substance as possible should be removed by irrigation. This will hasten the lenticular absorption which is slow and takes from three to six months for completion. The age of the patient and the size of the penetration are determining factors for the rate of absorption. Local cortisone[9,10] has proved a valuable agent in minimizing the ocular irritation and controlling the ocular tension. The conjunctival flap is preferred in those cases in which the posterior lens capsule has been penetrated. This facilitates closure because vitreous usually presents in the incision once the foreign body has been removed.

The posterior approach is made through the conjunctiva as near to the foreign body as possible. While operating under local anesthesia, the patient will often aid in localizing the site for the incision by a

pulling sensation when the magnet is applied. The Berman localizer may be used for a more accurate localization. Electric diathermy is then applied around the site of the incision to prevent a retinal detachment. A partial sclera incision is then made and interrupted silk sutures are placed in the sclera. The incision is then completed to the choroid and the foreign body is removed by magnetic attraction. The Lancaster hand magnet has proved satisfactory for this procedure. A bead of vitreous usually presents when the foreign body has been removed and it is advisable that it be left alone and the previously placed sutures tied. An excision of the bead of vitreous usually results in an escape of liquid vitreous. The conjunctival incision is then closed. Atropine and antibiotic medication is instilled in the conjunctival sac and both eyes bandaged. The patient is then treated as a postoperative retinal detachment case which includes prolonged bed rest and pinhole glasses.

All intraocular foreign bodies should be considered as bacteriologically contaminated, as stressed in the work of Leopold.[11] Tetanus antitoxin or toxoid is administered as indicated. Antibiotic medication is also administered.

Six intraocular foreign body patients were treated in the past three years. In all cases the foreign bodies were magnetic and were successfully removed. In 3 patients the foreign bodies were located in the anterior chamber; and in 3 patients, in the posterior portion of the eye. Three of the patients were Air Force personnel, and I should like to take this opportunity to thank the United States Air Force and the medical staff of the Barksdale Air Force Base Hospital for their cooperation in the study of the cases presented and for their permission to utilize these cases in this presentation.

CASE REPORTS

Case No. 1.—The patient was a 32 year old white male who had a foreign body enter his left eye at about 9:30 a. m. while working on a sawmill band saw. He was first examined at 2 p. m., and the foreign body was found to be in the anterior chamber. Surgery was performed at 5 p. m. through a limbal incision. The postoperative recovery was uneventful and he was discharged with an uncorrected vision of 20/20.

Case No. 2.—The patient was a 30 year old white male who had a foreign body enter the left eye at about 10:30 a. m. while driving an iron pipe into the ground. He was first examined at 1:30 p. m. and a scleral penetration was found near the limbus. The lens was not damaged and a foreign body was seen on the retina just above the optic nerve head. Vitreous and retinal hemorrhage were also present. He was admitted to the hospital for surgery and a Sweet localization completed. The foreign body was removed through the posterior approach at 5:30 p. m. The postoperative convalescence was uneventful and he was discharged with an uncorrected vision of 20/20.

Case No. 3.—The patient was a 23 year old white male who had a foreign body enter his right eye at about 3 p. m. He was prying an engine cowling from a B-29 with a screw driver at the time of the accident. The foreign body was found embedded in the iris and lens. Surgical removal was performed at 6 p. m. through a limbal incision and iridectomy. Lenticular absorption was completed by the fourth month and vision was correctable to 20/25 with an aphakic lens.

Case No. 4:—The patient was a 24 year old white male who had a foreign body enter his left eye while he was cutting a cotter pin. As the eye was only temporarily painful, he did not seek medical attention until the following morning. The foreign body was seen in the anterior chamber lying on the iris. Surgical removal was completed at 1 p. m. by widening the corneal wound. The postoperative convalescence was uneventful, and he was discharged with an uncorrected vision of 20/20.

Case No. 5.—The patient was a 26 year old white male who had a foreign body enter his right eye at about 10 a. m. This man thought that a drop of oil had entered the eye while he was tapping a drive shaft of a truck. The examination revealed a laceration of the cornea and a penetration of the lens. The foreign body was localized in the posterior inferior quadrant of the eyeball by using the wire ring method. Surgical removal was completed by the posterior approach at 4 p. m. The lenticular absorption was completed by the fifth month. During this period local cortisone was used to decrease the intraocular tension. He was discharged with a corrective vision of 20/20 with the use of an aphakic lens.

Case No. 6.—The patient was a 27 year old white male who had a foreign body enter the left eye at about 10:30 a. m. At the time of the accident he was cutting a cable on a drilling rig. He was first examined at 2:30 p. m. and found to have a large corneal wound and a lenticular penetration. The x-ray examination revealed a large foreign body located in the lens and vitreous of the eye.

The foreign body was so large that it was necessay to remove it through a wide limbal incision. The conjunctival flap was used as a precautionary measure since vitreous was present in the anterior chamber and further loss of vitreous was anticipated. Upon the removal of a very large foreign body, the vitreous presented in the incision and the previously placed conjunctival sutures were tied. The postoperative convalescence was uneventful and the lenticular absorption was completed by the fifth month. He was discharged with a corrective vision of 20/40 by using an aphakic lens.

SUMMARY

The pathology involved in the reaction of the eye to a foreign body was discussed, and the need for the early surgical removal was stressed. The author's method of handling an intraocular foreign body was presented. The case histories of 6 patients with intraocular foreign bodies were summarized.

CONCLUSIONS

1. Intraocular foreign bodies should be removed as soon as possible.

2. The x-ray localization should be performed when the patient is admitted for surgery.

3. The Lancaster hand magnet is satisfactory for the removal of magnetic intraocular foreign bodies.

4. All foreign bodies must be considered as bacteriologically contaminated, and antibiotic medication administered.

5. Each patient must be considered as an individual problem, and the surgical approach planned accordingly.

6. Local cortisone is effective in minimizing the ocular irritation and in controlling the ocular tension in patients with a lenticular penetration.

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MANAGEMENT OF CERTAIN COMPLICATIONS IN CATARACT SURGERY

CLIFTON B. FLINN, M. D.

MONROE

The technique of cataract surgery has been so greatly improved since my earliest hospital training, in 1932, that today 90 to 95 per cent of patients can expect good visual results rather than the 70 to 75 per cent of twenty-five years ago. But it must be remembered that these were prepenicillin, precortisone, presuture, "hit and run" days. Many of the hazards have been lessened or removed and a comfortable, short, postoperative convalescence is the rule. Some brave surgeons even operate on the second eye within four or five days.

However, no one can be certain of perfect patient cooperation, or of the absence of infection, vomiting, coughing, psychosis and hemorrhage. Even the private patient who has had the most complete general and laboratory examinations may develop infections, hemorrhage, retinal detachment, or glaucoma. Very few of us go to the extent of testing for lens protein or drug sensitivity. Time and the patient's economic status necessarily limit the work-up. In the clinic or "charity" patient this laxity is much greater with the dependence placed on others who have less appreciation of these dangers.

Herein I want to discuss the more common difficulties which complicate my own particular method. The latter is an outgrowth of trial, error, and elimination of many techniques. Rather than a recital of statistics (some not too flattering), I

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will endeavor to give an impression gained over the years. Nothing original is claimed.

(A) VITREOUS PROLAPSE AND LOSS

This is by far the most frequent, and therefore the most important serious complication, occurring in 2 to 5 per cent of cases, even in the best of hands. Luckily for the patient, corneoscleral sutures are a "must" today, promoting and helping to insure early healing, early ambulation, less infection, and minimal loss of vitreous in the complicated case. A good suture line will result in less delay in the reformation of the anterior chamber. My final choice of suture is the preplaced Ruedemann, continuous, no knots or ties, with No. 6 black silk. This is used with or without a conjunctival flap. I like the idea, but have not yet tried thrombin and plasma solutions to agglutinate wound edges into a water-tight closure.

The use of forcep or suction cup, tumbling or direct delivery is a matter of individual choice and adeptness. I prefer the motor driven erisophake.

Once the hyaloid membrane breaks, the 12 o'clock suture must be pulled taut and all pressure of the lids relieved by lifting the lid sutures or speculum, if used. If the lens has not been delivered, a loop (not a spoon) is best to retrieve the lens effectively. After sutures are pulled tight the liquid vitreous can be pushed back by an air bubble. Normal viscid vitreous will cause much greater difficulty, but may be cut off and later partly replaced by normal aqueous or injected air, after two or three days healing. In the susceptible eye, secondary glaucoma is almost inevitable and miotics fail completely.

The round pupil is always striven for, if no iris synechiae prevents,—chiefly for optical reasons. It offers little barrier to loss of vitreous and may aid in treatment, if simple glaucoma supervenes.

Intracapsular delivery is always attempted, particularly, if iris disease preexisted. The result of this is more likelihood of vitreous rupture and loss, but the visual results warrant this risk. A traction suture in the superior rectus tendon will prevent much of the aimless movement of the nervous eye but is more dangerous than blocking of this muscle with procaine. Kirby advocates a suture in the muscle belly, but this procedure has always caused great hematomata in my experience. Sedation is helpful but never quite replaces personal confidence in the operator.

The one most valuable preventive is perfect akinesia of the orbicularis. Block of the extraocular muscles is helpful but total paralysis by retrobulbar procaine has been rare in my experience. O'Brien facial block is not always easily done and may not be complete when the operator, pressed for time, decides to go ahead. I believe the answer is intravenous curare, if a competent anesthesiologist is available.

Recently an eye was sectioned in which the vitreous was watery and found to be mixed with the aqueous corneal section. Naturally, much loss occurred and the eye appeared in a nearly collapsed state after tightening the suture. To my surprise, the patient did well and is going to have good vision. I was further surprised to find that I had neglected to read my notes of two years previous when the other eye had had identically the same findings at operation, and with equally happy results. All this was further complicated by the patient vomiting soon after the dressing was applied. Apparently, in fluid vitreous the deficit is made up with more aqueous. Total loss by expulsive hemorrhage has not been one of my unhappy experiences in the 600 cases reviewed for this paper. Infection of the vitreous body after such prolapse is something to be dreaded as nothing suffices and the eye must be removed. Be sure that the culture report is negative before operating in order to avoid medicolegal worries.

Several rules can be formulated:

1. Approach all cases as if vitreous were fluid.
2. Be alert when the lens and iris push forward after section.
3. Insist on a relaxed patient.

4. Avoid all undue pressure by instrument or too great amount of retrobulbar injection.
5. Be unhurried before and after sectioning the cornea.
6. Break all zonule fibers before attempting delivery or tumble the lens. The latter is possible only after total zonule separation.

(B) HEMORRHAGE

Everyone must operate on diabetics and the aged where cataracts are concerned. This means that bleeding will frequently occur at operation and postoperatively, even though the blood sugar is controlled and diastolic blood pressure is below 110. Mild anterior chamber hemorrhage, as in traumatic cases, will resolve and small amounts in the vitreous body wil often clear in a year or less. Massive vitreous hemorrhage is fatal in all eyes. Severe bleeding in the anterior segment, if caught in time, may be removed only to recur, resulting in occlusion of the pupil or corneal staining.

Axiom:

1. Always have the cautery at hand.
2. Precheck the coagulation and bleeding time and the sedimentation rate.

(C) POSTOPERATIVE IRIS PROLAPSE (WITHOUT VITREOUS HERNIATION)

Iris incarceration is the least serious of the difficulties we have discussed. It means that the suture line was not too good and pressure was applied by the patient's lids, or that pressure built up in the unreformed anterior chamber and forced the iris out. Pain on the second or third day signals this mishap. The patient reports feeling a gush of fluid followed by pain. Infection threatens, hammock-shaped pupillary deformity is certain, occlusion is possible.

Preventive measures are:

1. Air bubble instilled in anterior chamber.
2. Multiple iridotomies between sutures or even total iridectomy for the persistent prolapse at operation.
3. Prolongation of the akinesia by addition of epinephrine to the procaine —plus lid suture.
4. Use of miotics at first dressing if the iris was not injured.

The cure is:

1. Resect the early prolapse or leave it to atrophy if discovered so late that it is covered by conjuctiva, especially if small.

Do not use acid or actual cautery. Iritis inevitably sets in and sympathetic uveitis is a possibility.

UVEITIS

As to the danger of uveitis, whether traumatic, phaco-anaphylactic or smypathetic, one must take all precautions of preliminary examination of both eyes, plus a good history. In addition, complete medical and dental examinations must be required. A capsule ruptures occasionally, in spite of all precautions. Unnecessary trauma and introduction of infection by careless use of instruments can be avoided. Here, the hormone, cortisone, is the surgeon's best friend.

CONCLUSION

Accidents of cataract surgery are inevitable but today they can be kept to a minimum even in the dangerously complicated case, provided all precautions are taken before, during, and after surgery.

AN EFFECTIVE METHOD OF PERSONAL ORAL HYGIENE PART II*

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NEW ORLEANS

DESCRIPTION OF THE METHOD

Above, attention has been directed to the essential local etiological conditions in caries and in periodontoclasia—conditions without which lesions of these diseases do not originate, and existing lesions, with rare exceptions, do not advance further. With this information known and clearly understood it is evident that these conditions must be prevented or minimized to prevent the occurrence of the lesions and the advancement of existing lesions.

Treatment of existing lesions is a matter for the judgment and experience of

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the dentist to decide. Some caries lesions require fillings; others may require trimming and smoothing of overhanging edges, perhaps enlarging the cavity, so it can be cleaned out well by the patient; still many others require nothing but watching.

It is necessary that all concretions (calculus) on the tooth within the periodontoclasia lesion be scaled off and the surface of the tooth be made as smooth as is practical. Masses and rough surfaces of calculus are very much in the way of the patient's cleaning the tooth, especially within the crevice. It is very important that removal of the calculus include that in the deepest part of the pocket where the lesion is advancing. This calls for skill, patience and conscientious work.

There is no need or justification for the extensive mutilating gingivectomies sometimes done in this disease. Except in the case of some far advanced stage lesions and under special circumstances, thorough cleaning of the teeth by the dentist followed by the method of personal oral hygiene described below, results in rapid subsidence of inflammation and of suppuration of the tissues involved. No further advancement of the lesion occurs.

Locations on the teeth which must be cleaned.—The important locations on the teeth which the patient must clean are occlusal depressions (pits and fissures); areas which are more or less protected from functional friction, such as the embrasures and interproximal surfaces; and the surfaces at the entrance to, and especially those within, the gingival crevices.

The material to be removed (cleaned off or out) consists of more or less food material, in various stages of decomposition, which has been retained since the previous cleaning, and of bacterial film material which has grown there since the previous cleaning. All such material is soft and is easily dislodged by the right (proper) application of toothbrush bristles and of the filaments of dental floss. There is no other way by which they can be physically and effectively dislodged by the patient—no other way by which he can clean his teeth at these important locations.

Right kind of toothbrush and dental floss.—Effective cleaning of the teeth can be done only with a brush and floss, the bristles and filaments of which can be effectively applied to the areas to be cleaned. After having full information as to the functions to be performed and measurements of the spaces and places to be cleaned, and after much experimentation, I have ascertained what I believe are the optimum characteristics of brushes and of floss for the purpose. The exact details have been published,[19,72] and the reasons for these specifications were given. In my opinion, based upon my own knowledge and experience, brushes or floss that deviate to any considerable extent from these exact specifications are inappropriate and less effective for the purpose, to whatever extent they so deviate.

Briefly, the specifications of the brush are:

1. Plain straight-handle design; over-all length about 6 inches; width about 7/16 inch; 3 rows of bristles, 6 tufts to the row, evenly spaced.

2. High quality nylon bristles, about 80 per tuft, .007 inch diameter, straight trim, finished to 13/32 inch length.

3. Ends of bristles ground and finished to hemispherical shape or at least enough to eliminate all sharp points and rough edges.

4. A similar brush of reduced size for the use of young children should have an over-all length of about 5 inch, .005 inch bristles, finished in the same way to 11/32 inch length.

Briefly, the specifications of the floss are:

1. Material—high tenacity bright nylon yarn (Type 300), 2 denier per filament.

2. Construction—made by twisting to-

gether 5 threads of 70 denier, 34 filament yarn.

3. Twist—3S twist, steamset.

4. Size—350 total denier.

5. Manufacturer's technical designation for this floss is: 70-34/5 S 3, Nylon 300, steamset.

When teeth must be cleaned.—Practically all caries activity occurs at night during rest and sleep. During the daytime movements and activity of the mouth, tongue, cheeks and lips result in frequent washing of the teeth and more or less changing of the saliva around the teeth including that at locations at which food material may be retained and decompose. Acids that may be produced are diluted and/or carried away, more or less, by such frequent changing of the surrounding saliva. Food material is also diluted or washed away, especially the easily dissolved parts of it.

Sugars and fermentable carbohydrates contained in particles of food material which is subject to frequent change of the surrounding fluid tend to leach out. Even food material retained within cavities gives up much of the sugar it may contain, from the frequent changing of the fluid with which it is constantly bathed.

All this activity and functions of the mouth by which fermentable carbohydrates and acid that may be produced are diluted or partially removed necessarily tends to reduce caries activity during the daytime.

On the other hand, during sleep the flow of saliva is greatly reduced. The movements of the mouth by which the saliva surrounding decomposing food material at the caries locations is changed and the products of fermentation are washed away or diluted, are also greatly reduced. The most favorable conditions exist at this time for caries activity.

It has been found by several workers [73-77] that caries incidence and activity are enormously increased in desalivated animals fed a cariogenic diet. Klapper and Volker [78] found that hamsters with only partial salivary gland impairment, when fed a suitable cariogenic diet, develop much more caries than controls. Apparently, the quantity of saliva is an important factor.

In xerostomia (dry mouth), in humans without exception,[79] there is rapid decay of the teeth. This is believed to result from the lessened washing and bathing of the teeth by saliva. In cases in which caries is much in evidence on one side of the mouth only, the patients invariably [80] have a preference for sleeping on the opposite side. This habit tends to dryness on the up-side which is where the greatest caries activity occurs.

It has been pointed out that the changing of fluid and washing of potential caries areas on the teeth which goes on, consciously or unconsciously, during the daytime is enormously decreased during rest and sleep. In addition, and what is even more important, flow of saliva is almost nil. Therefore, during sleep, the conditions are quite similar to those of desalivated animals or of humans with xerostomia. Since conditions which permit and promote caries activity exist mainly at night during sleep, it is evident that to prevent such action at that time, the teeth must be cleaned effectively before retiring.

So far as caries activity is concerned, if the teeth are thoroughly and properly cleaned at night before retiring, there follows a long period during which there is no acid production, because there is no fermentable carbohydrate food material present to produce it. This period coincides with the period during which caries activity otherwise occurs. The cleaning also dislodges or removes much of the bacterial film material at the vulnerable areas. Not much growth of the remnants —stumps and stems—of such microorganisms occurs during the night, for lack of suitable substrate for their growth which food material, if present, would provide.

The time the teeth must be cleaned for prevention of periodontoclasia activity is indicated by somewhat similar consider-

ations to those relative to caries activity. Usually food is taken into the mouth at several different times during the day. Remnants of food—solutions, microscopic particles, some larger—tend to lodge and be retained in protected areas at the entrance to the gingival crevices. Some may be forced into the crevice for short distances. In addition, larger tough particles may be retained between the teeth and press upon the interproximal gingiva, sometimes extending into the crevice. During the daytime the activities and functions of the mouth, and the abundant flow of saliva, result in washing away irritating material. If, however, it is retained over long periods of time during quiet and sleep, and minimum flow of saliva, it causes more or less continuous irritation of the tissues. Most favorable conditions exist for maximum growth of bacteria. If on the other hand the teeth are thoroughly cleaned at these locations, at night before retiring, there follows a long period during which there is no such irritation from decomposing food material, and there is little growth of bacterial film to advance into the crevice.

Thorough proper cleaning of the teeth by the necessary method described herein, not only removes retained food material and dislodges and removes bacterial film at and near the entrance to the gingival crevice, but the bacterial film on the tooth within the crevice all the way down to the very bottom of the lesion is mostly dislodged and removed. Little growth takes place during the night.

Removal of irritating material at the entrance to, and within, the gingival crevice permits rapid subsidence of inflammation and healing of the ulcerated crevicular gingival tissue of existing lesions. It is perfectly evident that for prevention of periodontoclasia and prevention of further advancement of existing lesions, the teeth must be cleaned at night before retiring.

Thorough cleaning of the teeth at night before retiring is essential for prevention of both caries and periodontoclasia. Notwithstanding the best job that can be done, there occurs more or less growth and accumulation of bacteria in the mouth at protected locations on the teeth and elsewhere during the night. It makes for somewhat more cleanliness and less decomposition of food in the mouth during the daytime if the teeth are brushed and vigorously rinsed in the morning before breakfast.

How to brush the teeth.—The most important areas to be cleaned with the toothbrush are (a) the occlusal pits and fissures, (b) the proximal surfaces in the sulci between the teeth as far as the bristles may go, (c) the surfaces of the teeth within the gingival crevices to the extent they are accessible to the application of the bristles of the brush. It is done by applying the ends of the bristles to the area with firm pressure and moving the brush back and forth ("vibratory motion") with short strokes, thereby dislodging soft material by the digging action of the ends of the bristles wherever they can be applied.

The bristles of the right kind of brush are smaller, therefore more flexible (easy to bend) than those of other brushes; they are all of the same length; the tufts are properly spaced for most effective use; (microscopically) each bristle is round or smooth on end. This brush was designed and the specifications for it were determined [19] after first having accurate information as to the conditions to be met and the size and shape of the spaces to be cleaned with it.

All the surfaces of all the teeth to which the bristles of the brush can be applied, should be brushed. A good routine is to brush the buccal and labial surfaces of all the teeth first, then the occlusal and lingual surfaces of the grinders in all four quadrants, and finally the lingual surfaces of the anterior teeth.

In brushing the buccal, labial, and lingual surfaces the bristles should be forced directly into the gingival crevices and into the sulci between the teeth, at about a 45 degree angle to the long way of the

teeth. With the bristles forced into the crevices as far as possible, short back and forth movements of the brush dislodge all soft material which they reach on the tooth within the crevice. At the same time the teeth are cleaned above the gum in the sulci and between the teeth, as far as the bristles may go.

At first there is more or less bleeding from the inflamed crevicular gingiva, but this rapidly ceases as the inflammation subsides and the tissues toughen up. Thereafter no reasonable amount of vigorous brushing with this brush causes bleeding, except for such periodontoclasia lesions as may not have healed yet.

A good way to brush the buccal and labial areas is to close the mouth with the teeth nearly together, then put the brush inside of the cheek and brush the lowers and uppers alternately, on one side of the mouth, moving forward and across the anteriors and changing to the other side, brushing the teeth there in the same way.

The occlusal surfaces of the grinders are to be brushed by applying the bristles to the surface, pressing down firmly and moving the brush back and forth with short strokes. This digs out any soft material that may be present in the occlusal pit and fissure depressions.

Usually at this same time the back teeth are brushed on the lingual side in the same way as on the buccal side. The bristles should be directed firmly, at about a 45 degree angle into the sulci between the teeth and especially into the gingival crevices.

This is the time to brush around the back teeth, the most unclean and most neglected place in the mouth. There is a certain relaxation of the jaw (a certain opening of the mouth) which each person must learn for himself, which permits the application of the bristles of the tip (or toe) of this brush to be applied into the space around the back tooth in a way that no other brush could be applied. By the right pressure, application and brush movement one can learn to clean around his back teeth in a surprising and pleasing way. Soon one learns to brush simultaneously the occlusal surfaces, the lingual sides of the grinders, and around the back teeth, in each of the four quadrants.

Finally the anterior teeth are brushed on the lingual side, by directing the bristles of the heel or of the side of the brush into the gingival crevices and the sulci between the teeth at about the same 45 degree angle as at all other places.

Although we have described the brushing in several different locations as if it were done in separate stages actually one proceeds without distinction or separate stages until the brush has been applied, as best it can be, to all areas which can be reached with the ends of the bristles. Anyone who knows how, can brush the teeth as well as is necessary in less than one minute. It is not a matter of how long to brush but to *do it right by this method*, which is quite different—almost the opposite in important particulars—from methods generally advocated or followed. It consists essentially of forcing the ends of the bristles of a brush of appropriate specifications directly into the gingival crevices and into depressions where food material and bacterial film tend to accumulate, and by short stroke movements, dislodging and removing such material.

How to clean the teeth with dental floss.—By the above method of brushing, the bristles of the brush have been stuck in between the teeth and into the gingival crevices as far as they will go, from the buccal or labial side and from the lingual side, but there will be a place along the middle between the teeth where the bristles have not met. The proximal surfaces not reached by the bristles, and those within the gingival crevices, have not been cleaned. The only way by which these important areas can be cleaned is by the proper use of the right kind of dental floss. The optimum characteristics of dental floss for this purpose have been determined,[72] after first having ac-

curate information as to the conditions to be met and the functions to be served by it.

This right kind of dental floss consists of a large number of microscopic nylon filaments, not waxed, and not twisted except just enough to hold it together when in use. It is easy to understand that drawing (scraping) this bundle of microscopic filaments crosswise over a tooth surface would tend to cut off, dislodge and remove microscopic material that may be present there. The bacterial film and other material to be removed consists of microscopic particles.

Each person must be taught how to use dental floss right. Only a few people now know that the use of dental floss is necessary and those who do, in most instances, do not use it effectively for the purpose for which it is required.

For the purpose of cleaning the surface around the contact area, thereby preventing caries activity there, it is only necessary to pass the floss through the contact and back out. This cleans the proximal surfaces above the gum which have not been reached by the bristles of the brush.

For the purpose of preventing periodontoclasia, and preventing advancement of existing lesions, those tooth surfaces within the gingival crevices which cannot be cleaned with the brush, must be cleaned with dental floss. The foreign material on the tooth within the crevice, which causes and promotes the advancement of periodontoclasia, extends to the very bottom of the lesion. Therefore, to remove this material the floss must be carried to the bottom of the lesion.

The floss must be held firmly against the tooth and drawn outward (perhaps sometimes slightly endways also) so as to cut off and dislodge the bacterial and other microscopic material on the tooth within the crevice. The large number of separate nylon filaments of which the floss is composed, when drawn crosswise over the surface of the tooth from the bottom of the lesion outward, not only dislodge microscopic material but much of this is retained between the filaments and is removed with the string.

It does not matter what system is followed in cleaning the teeth with dental floss just so the floss is carried to the bottom of the crevice and then drawn firmly across the surface of the tooth from the bottom of the crevice outward. Different people develop their own technic and manipulations for cleaning their teeth with dental floss. They have to be taught by someone who knows how it should be done and why. The person must be shown that he has diseased gingival crevices, that the teeth are unclean within them, and that the floss must be carried to the bottom of the crevice in order to clean the tooth at this important location.

After considerable experience in presenting this method to a good many dentists and dental students, and in teaching other people how to clean their teeth with dental floss, this author has not found any change needed in the detailed directions he published several years ago,[1] which are quoted verbatim as follows:

1. Cut off a piece of floss about 2 to 3 feet long.

2. Wrap one end with 2 or 3 turns around the first phalanx of the right index finger, for the purpose of anchoring or holding it.

3. Bring the floss over the end of the right thumb which is also held against the finger around which the floss is anchored.

4. Grasp the floss with the left hand and bring it over the end of the first finger of that hand. Thus a length of floss, about 1 inch long, is held between the thumb of the right hand and the first finger of the left hand. (Fig. 25-1.)

5. Now with the thumb inside of the cheek and the finger inside of mouth, the floss is carried to the very bottom of the gingival crevice back of the last right upper tooth, drawn slightly endways through the crevice and crossways outward across the distal surface so as to

scrape off and dislodge the soft bacterial material on the tooth within the crevice and outwards.

6. Holding the floss in the same way, pass it into the next interproximal space. Carry it to the bottom of the posterior

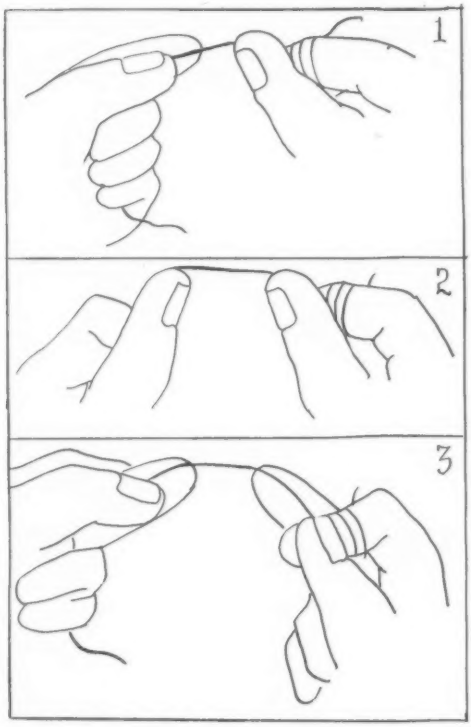

Fig. 25: Good way to hold dental floss in cleaning the teeth. For upper right 1, upper left, 2, lowers 3. See text for details.

gingival crevice and clean the mesial surface of that tooth. Now, before withdrawing the floss from this interproximal space, clean the distal surface of the other tooth in the same way. Then withdraw the floss and move on to the next interproximal space, etc., until the proximal surfaces of all teeth have been cleaned.

7. In passing the floss between contacting teeth it is not forced directly in and out. It should be held over the contact and drawn gently and slightly back and forth endways. This allows the low-twist, unwaxed floss to flatten and pass between the contacting teeth with the greatest ease.

8. After cleaning 2 or 3 teeth the part of the floss used is somewhat soiled and loaded with bacterial material. It is desirable to move along the string to a new place by taking another turn around the anchoring finger. This should be repeated from time to time as needed.

9. The floss is held and manipulated with the same fingers as indicated above until after the surfaces of the teeth in the interproximal space between the left central and lateral have been cleaned.

10. In cleaning the rest of the upper teeth, it will now be found more convenient and practical to hold the floss over the ends of the thumb of the right hand as before and over the thumb (instead of the index finger) of the left hand (Fig. 25—2).

11. All the lower teeth now should be cleaned in the same way. Most people will find that they can carry out the necessary manipulations most successfully with the floss held over the ends of the middle finger of each hand instead of the thumbs or the thumb and first finger as in cleaning the upper teeth. (Fig. 25-3)

12. After cleaning all the teeth with dental floss, the mouth should be thoroughly rinsed by forcing water vigorously back and forth between the teeth in order to remove material that has been loosened or dislodged but not removed by the floss. After a little experience one can clean all his teeth well with dental floss in from two to three minutes.

13. It gives a pleasurable sensation of cleanliness to hastily brush the teeth again after cleaning them with dental floss. But this is not essential.

Since practically all adults and many others have active periodontoclasia lesions of various extent around part or all of their teeth, there will be more or less bleeding of their inflamed gums when they first begin cleaning their teeth with dental floss. This soon ceases and the previously inflamed tissue rapidly heals. No bleeding or discomfort is experienced from any reasonable manipulations of the floss in the future. One soon realizes

that his teeth are cleaner than they have ever been before.

DISCUSSION AND COMMENT

Although the method of personal oral hygiene herein described has been perfected and some of the information upon which it is based has been established or clarified during the past few years, actually the fundamental ideas as to the cause of these diseases of the teeth and gums, and quite similar effective means of preventing them, were known and taught almost one hundred and thirty-five years ago. If the method then known could have been available and followed generally since that time, countless millions of people would have avoided untold disease, impairment, and final loss of some or all of their teeth; and the resulting disfigurement, discomfort, and other unhappy consequences.

In the Charles Edmond Kells Collection in the Rudolph Matas Medical Library at Tulane University, there is a 200 page booklet [81] entitled "A Practical Guide to the Management of the Teeth, Comprising a Discovery of the Origin of Caries or Decay of the Teeth with its Prevention and Cure," written by Levi Spear Parmly ("Dental Professor") and published in 1819. No doubt copies of this book can be found in other collections and in other libraries. Anyone claiming that our present conception of the cause and prevention of the diseases of the teeth — caries and periodontoclasia — is new, owes it to himself to read this treatise.

Parmly recognized and asserted, without reservation, that these diseases of the teeth and gums are caused entirely by local conditions of uncleanliness and that they can be prevented only by cleaning the teeth effectively. Up to this time most authorities considered that caries originated within the tooth and that gum disease was due to systemic conditions. If not the first, Parmly was certainly one of the first, to claim that local uncleanliness is the essential cause of decay of the teeth and to devise an effective method of cleaning them for prevention of the disease. He was enthusiastic about his "discovery" and asserted that "if the teeth and gums are regularly cleaned with the dentifric apparatus recommended by the author, no caries can possibly take place." "*** the interstices and irregularities of the teeth afford a lodgment for whatever is taken into the mouth, and no contrivance *hitherto discovered* can, from these parts, remove the accumulations."

Parmly came to New Orleans in 1824, taught his methods and gave several lectures on care of the teeth. He was from England where he was celebrated for his knowledge and methods. He also practiced and lectured in this country, in New York, Savannah, and Charleston in addition to New Orleans. Copies of these lectures in our library present ideas and methods advocated by him at that time with which, with only slight improvement and modernization, our present information and methods entirely coincide. His "dentifric apparatus" consisted of three parts. Although there is no exact description of them, there is general information as to what they were and how they were to be used. "The first part to be used is the brush. It is made hollow in the middle to embrace every part of the teeth except the interstices; and thus, at one operation, the top (a part hitherto entirely neglected), the outer and inner surfaces are completely freed from all extraneous matter. The second part is the polisher for removing roughness, stains, etc., from the enamel and restoring the teeth to their natural smoothness and color." I do not find any description of the polisher.

"The third part is the waxed silken thread which, though simple, is the most important. It is to be passed through the interstices of the teeth, between their necks and the arches of the gums, to dislodge that irritating matter which no brush can remove, and which is the real source of disease. With this apparatus, thus regularly and daily used, the teeth and gums are preserved from disease."

In describing his method of cleaning the teeth with his "untwisted waxed silk" floss, he says "although the gums may first become subject to slight bleeding, yet in a few days, by perserverance in the treatment recommended, this bleeding will soon cease." Persons subject to inflammation of the gums "should clean them often with the waxed silk; when a new and healthy action will be communicated to the gums and they will be restored, in a short time, to their naturally firm and adhesive state."

Some of his other statements are especially interesting. "The first and most important object is cleanliness of the mouth, which is the only preventive of disease." "Where the teeth are kept clean and free from such objectionable matter." (relics of food undergoing putrefaction) "no disease will ever arise. This being the case, the means of prevention are clear and simple; and it is in the mode of cleaning them, that the whole secret of avoiding disease consists." This can be done only "in a proper manner, by using the dentifric apparatus described."

Disease of the teeth is "the effect of carelessness, inattention, or other want of cleanliness. It is in the power, therefore, of every individual to preserve the teeth and gums in perfect health." The advice relative to children's teeth, which he gave then, is quite applicable today. "In childhood the mouth should be cleaned every evening. The relics of food, which have been all the day accumulating, are thus prevented from committing their ravages during the night; and the habit of cleanliness will become fixed, from being so essentially connected with personal comfort." "When the permanent teeth begin to make their appearance, then is the time that the greatest attention to cleanliness is particularly necessary."

In the light of our present knowledge as to the essential etiological conditions in periodontoclasia, it is evident that no method of personal oral hygiene could be effective in preventing it, without the proper use of dental floss. Throughout the literature during the present century, many authors mention the use of floss silk or "flossing" as a part of the home care of the teeth. In most instances methods of using it suggested or implied could not be effective because they do not include cleaning the tooth within the gingival crevice. Joseph Head,[82] in 1917, described his method of "floss-silking" the teeth which evidently did include application of the floss to some extent within the crevice. He says the silk should go "up well under the frenum of the gum ***across the gum and up into the opposite frenum." His statement that "the gums at first naturally bleed" further indicates that the method he advocated included carrying the floss into the crevice.

Proper use of dental floss is necessary for maintenance of both oral cleanliness and dental health. Whatever advocacy and promotion there may have been of this necessary part of personal oral hygiene, it remains a fact that, as yet, very few people use dental floss. Out of more than 900 people—mostly university personnel and dentists and dental students —whom I have examined during the past several years, less than half a dozen were using the available dental floss effectively and thereby maintaining a high degree of oral cleanliness and dental health. Some others used it irregularly and ineffectively.

During recent years there has been a wave of promotion of the idea that the teeth must be brushed soon after each meal. It is based upon the observation by Stephan and others[83-87] that the application of sugar solutions to accumulated dental plaque material ("materia alba") is quickly followed by marked increase in acidity.

Fosdick[88] and a group of cooperating investigators carried out a large clinical experiment to ascertain the effect upon caries incidence, of brushing the teeth within 10 minutes after each ingestion of food or sweets. The brushing was to be followed by thorough rinsing of the

mouth. The controls followed their usual procedure which "generally consisted of brushing their teeth night and morning."

The results over a one or two year period indicate that the incidence of caries is reduced between 50 and 60 per cent by brushing (and/or rinsing) the teeth right after ingesting food or sweets. Both test subjects and controls had a considerable increment of caries lesions during the experimental period. The implication is that these were new lesions which were not present at the beginning. Any method of personal oral hygiene which allows the development of any new caries lesions, is inadequate.

It has long been well known that when fermentable carbohydrates are applied to a mass or accumulation of acidogenic bacteria, acids are produced quickly. If on the other hand, culture media containing the same fermentable carbohydrate is, inoculated with a relatively small number of such acidogenic bacteria, it requires hours of incubation and multiplication before significant amounts of acids are produced. This is common practice in bacteriology in testing acid and gas production of organisms.

In carrying out the experiments to test acid production of plaque material in situ, or to collect a sufficient amount for tests outside of the mouth, it is necessary for the subject to refrain from cleaning the teeth for some time, usually three or four days, to allow time for accumulation of sufficient suitable material for the purpose. How different these conditions are from those that exist when the teeth are properly cleaned of food and bacterial material with both toothbrush and dental floss every night before retiring! When this is done there is not time for harmful amounts to grow and accumulate during the following day before time to clean them the next night; or for sufficient amount for testing purposes either.

Advocating and promoting brushing the teeth after every ingestion of food, for the purpose of lessening caries incidence, encourages the misbelief that caries is the main disease of the teeth (periodontoclasia is the most important for adults), that the teeth can be effectively cleaned with the brush (which they cannot), and it tends to detract attention from the importance and application of the essential information that the teeth must be cleaned with both toothbrush and dental floss every night before retiring.

The oral hygiene (oral cleanliness) habits of different individuals vary greatly, as do the other habits of personal cleanliness. These are acquired in the home. During early childhood the child must learn by experience and the example of others that preparation for retiring at night must include thorough cleaning of the teeth. It should be an established practice in the home that no one may retire with an unclean mouth.

The young child cannot clean his teeth effectively; therefore, it must be done for him by the parent, who must know how to do it. During the first several years, use of the floss is not necessary. The teeth can be cleaned with the brush well enough to prevent caries, if it is done right. The most important part for the child is cleaning the occlusal surfaces of all the chewing teeth by firm application of the bristles to these locations, since almost all cavities in childhood originate on the occlusal surfaces of the grinders.

After a child is several years of age and the permanent teeth are in place, then it is important that the teeth should not only be cleaned with the brush, but that dental floss should be passed (in and out) between contacting permanent teeth, so as to insure against proximal caries activity. At some age, usually between 6 and 10, the child who has been well trained can take over his own oral hygiene procedure, at first under supervision and finally without.

At the present time most children have already sustained caries damage to some or several of their teeth, especially the grinders, by the time they are 12 to 15 years of age. This is entirely preventable and the parents have full responsibility

for it. The responsibility cannot be placed upon the child or others. For a child to develop even one caries lesion is a reflection of neglect and deficient or uninformed guidance in this regard.

In general, as each person advances in age, there is a constantly increasing accumulation of dental disease and injury. Although such damage as has already occurred at any given time, cannot be prevented now, for all practical purposes, and except for some special circumstances, any person can begin at any age and, by the right method of personal oral hygiene herein described, prevent the occurrence of any new caries or periodontoclasia lesion during the remainder of life. The oldest person the author has had under close observation is now 78. For years he has been able, by this method, to maintain the maximum degree of oral cleanliness and dental health.

People depend upon practicing dentists for information and advice relative to dental health. The knowledge, ideas, and methods of dentists are acquired largely through their training in the dental school. Up to the present time, the fundamental facts upon which this method of preventing the diseases of the teeth is based and the method itself, have been taught, and that in a restricted or limited way, in only two of the dental schools of the country, Loyola in New Orleans and University of Texas in Houston. Short course intensive postgraduate instruction has also been given to small numbers of dentists, who then return and enthusiastically teach the method to their patients.

It should be understood that this is not just another method of personal oral hygiene to try on patients. The dentist who understands and knows of his own knowledge (not the opinions of others) the basic facts relative to the local etiological and pathological conditions in these diseases, already knows in advance that this method would be necessary to prevent them. He would be following the method himself. Until he does, he is not prepared to teach it to his patients.

SUMMARY

Attention has been directed to the essential local etiological conditions in caries and in periodontoclasia. The lesions of these diseases are caused, and their advancement is promoted, by uncleanliness at vulnerable locations on the teeth which are not naturally kept clean.

A limited number of illustrations have been included to visualize some of the ideas in the text. Reference is given to a larger number in the literature confirming the etiological conditions at the locations where the lesions of caries and periodontoclasia originate and advance.

Caries activity, and to a large extent, periodontoclasia activity, occur at night during quiet and sleep. To prevent them the teeth must be thoroughly cleaned at night before retiring, thereby securing a long period during which there is no food material about the teeth to ferment or decompose, and relatively little growth of harmful bacteria takes place.

The teeth can be effectively cleaned at the important locations only by the proper application of the bristles of an appropriate toothbrush and the filaments of the right kind of dental floss. Details of the method are given. These differ from, and in some particulars are the opposite of, those usually followed.

To maintain a high degree of oral cleanliness, and to prevent caries and periodontoclasia, *the teeth must be cleaned right, with the right kind of both toothbrush and dental floss, every night before retiring.*

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REPORT OF THE COMMISSION ON FINANCING OF HOSPITAL CARE

A Commission on financing of hospital care was sponsored by the American Hospital Association as an independent nongovernmental agency. It has functioned over a two year period and has rendered a report in January 1954. A total of $556,000 was contributed by several organizations to the Commission, containing 34 persons, who set out "to study the costs of providing adequate hospital services and to determine the best systems of payment for such services." There were 14 physicians among the 34 making up the Commission, and probably one fourth of these physicians could be considered as being in active practice. The recommendations have been made public. Three volumes of the Commission's findings are to be published in the spring and summer of this year.

The Commission has addressed itself to such questions as the following:

How much of the increased cost of hospitalization is due to expanded service?

How much is due to higher cost of labor and materials?

By what means may cost of care to the public be held to a minimum without impairing quality of service?

The Commission stated as its initial principle that "necessary hospital care should be available to all persons in the community, without regard to their ability to purchase it." The summary report contained recommendations in three areas of study: (1) voluntary prepayment for hospital care, (2) financing hospital care for the nonwage and low income groups, and (3) the costs of hospital care.

The Commission found—in a conclusion with which most doctors would agree—that voluntary prepayment for hospital care "greatly eases the burden of financing hospital care by making it possible to meet the costs through advanced periodic payments of known amounts." The result "is to reduce significantly the number of persons unable to pay for their care at the time of the illness and the number for whom the community, through private or tax funds, must assume financial responsibility." In other words, the machinery of voluntary prepayment stimulates methodical saving, provides a fund, and distributes the burden of illness.

The Commission emphasized the observation that funds paid to voluntary prepayment plans are "a public trust," and "methods to assure economy and maximum effectiveness in their use are a joint obligation of hospitals, physicians, prepayment agencies, and the general public." The Commission recommended certain measures to make the prepayment costs

as low as possible. These include the usual ones of eliminating unnecessary admissions, the prompt discharge of patients as early as medical needs have been met, and curtailment of unnecessary use of hospital beds for diagnostic and other services, which could be given on an ambulatory basis. The practicing physician, however, will recognize that the decision as to what is an ambulatory and what is a hospital patient is often influenced by factors not under his control, such as the emotional attitude of the individual, the availability of diagnostic procedures on an ambulatory basis, and the physical stamina of the individual.

The Commission appeared to feel that public interest in prepayment plans would be increased by greater uniformity and simplicity of contract, in which the coverage for essentials is clearly delineated. In the field of nonwage and low income groups, such as the aged, the unemployed, the disabled, and public aid recipients, the Commission found that agencies for financing hospital care in most communities were insufficient. In many communities, provisions were nonexistent. They stated that creative and imaginative approaches to the problem of financing and administration must be developed.

Several methods for extension of voluntary prepayment protection into periods of unemployment were recommended. It was felt that this could be done by voluntary action with prepayment plans and with employer cooperation, such as inclusion of prepayment costs in the unemployment compensation program.

Recommendation was made for the coverage of retired employees. Another proposal was the inclusion of a provision for hospitalization in the Federal Old Age and Survivors Insurance program for needy beneficiaries receiving monthly income maintenance benefits under this program. However, it did put in the proviso that such hospital benefits for OASI beneficiaries be the responsibility of state and local agencies and that protection be purchased from the voluntary prepayment plans or by payments directly to hospitals.

The inclusion of hospitalization under the various phases of the federal insurance program should be recognized by students of the state medicine problem as a frequently recurring proposal. Although certain comments in the public press stated that only by a semantic distortion could this be construed as socialized medicine, it is well known that such plans slide imperceptibly into compulsory prepayment insurance and then into full scale state medicine. The same comments and dangers would apply to various other proposals that governmental funds be used for experimentation in developing methods for improving the financing of hospital care for individuals in the low income group, such as those not on relief but not adequately self sustaining.

In the area of costs of hospital care, the Commission made extensive recommendations, which, in substance, have to do with obtaining increased efficiency of administration, the encouragement of philanthropy, the education of the public in hospital economics, and the inclusion of out-patient hospital services in prepayment plans. The inclusion of this latter provision is one with which many practicing physicians will take issue. If put into operation this plan would be another step in the direction of "hospital practice of medicine," the ultimate effect of which would be to shift the unit of practice from the individual physician to that of a corporation, in this case—the hospital. It is recognized, of course, that such provisions are an established part of tax supported and of certain teaching hospitals. If, however, these practices were extended to the voluntary hospitals their effect on the general practice of medicine would soon be evident.

The Commission subjected hospital costs to certain statistical analyses. It found that if the value of the dollar had remained unchanged from 1935 to 1952, the increase in total expenditures of all non-Federal general hospitals would have been only 199 per cent. Analyzing further, it

was stated that if the population had remained the same, the increase in total expenditures, after adjustment for inflation, would have been 148 per cent. It was further calculated that the costs per admission, after adjustment for inflation, have risen only 20 per cent.

Considering the recommendations of the Commission as a whole, in the three areas of study mentioned above, the medical profession can agree on the support of voluntary prepayment insurance plans, and also, agree on their extension under certain conditions. The provisions recommended for inclusion of a large section of the community under the welfare program with tax support bring us dangerously close to state medicine. The mere fact that hospital care was being provided by a voluntary agency in a free enterprise institution would not lighten the ultimate threat of governmental control.

The report as a whole is a valuable contribution in the field of thought on the problem of financing of hospital care.

CONFERENCE ON THE ADOLESCENT RETARDED CHILD

On April 9 and 10, a two day conference will be held in New Orleans, at the Jung Hotel, on *The Adolescent Retarded Child.* This conference is being arranged by the Woods Schools of Langhorne, Pennsylvania, and includes four papers and an extended panel discussion to be covered in three sessions.

Emphasis is being placed on problems of social rehabilitation and occupational placement. The type of program is such that it will be of great interest to physicians dealing with children, and also, to psychiatrists.

The sponsors of the Conference are anxious to have as many physicians as are interested to attend.

ORGANIZATION SECTION

The Executive Committee dedicates this section to the members of the Louisiana State Medical Society, feeling that a proper discussion of salient issues will contribute to the understanding and fortification of our Society.

An informed profession should be a wise one.

A. M. A. PRESIDENT URGES INTEREST IN PROBLEMS OF OTHER FELLOW

An interest in the problems of the other fellow for a better understanding among business, industry and the professions was urged by Dr. Edward J. McCormick, Toledo, president of the American Medical Association.

"One of the chief afflictions among professional and business men in our complex society today is lack of interest in what the other fellow is doing," Dr. McCormick wrote in the current (February 27) Journal of the American Medical Association. "As our technological progress grows, it becomes increasingly difficult to keep a broad perspective of what is going on, and the tendency to specialization grows stronger.

"The day of the plant superintendent who was able to boast that he could perform every one of the jobs in his shop with equal skill is rapidly vanishing. The business executive who could describe every intricate detail of his enterprise is becoming rare. And the family doctor once thought suitably equipped to handle almost any kind of ailment finds increasing need for consultation with specialists.

"With each passing year there is an ever-higher rate of skilled personnel crawling into hard shells of specialization that prevent over-all contact with their industrial and professional neighbors. Worse yet, these persons become divorced from all community activity. Yet the need is great for a better understanding among business, industry and the professions. In turn these segments of our economy owe

much to the communities in which they prosper, and persons owe to each other the obligation to be good neighbors."

Dr. McCormick stressed that if the medical profession is to continue serving the public effectively, it must seek out the facts on what the public wants. Getting together with representatives outside the medical profession is one way of doing this, he stated, adding:

"It is my sincere belief that local medical societies should encourage each individual member to participate in some civic undertaking. We physicians should be rendering health leadership in all service clubs, chambers of commerce, fraternal and veterans organizations, PTA groups, church associations, and unions.

"We cannot expect these organizations to be interested in our problems if we are not interested in theirs. Doctors should rub elbows on a social and organizational basis with persons outside the profession. There is much good to be gained in taking the time to learn the trouble of the other fellow. A diet limited to one-track ideas can lead only to social anemia."

REPORT OF CONGRESS ON MEDICAL EDUCATION AND LICENSURE

Licensure and medical care problems created by the heavy influx of foreign-trained doctors commanded a great deal of attention at the 50th annual Congress on Medical Education and Licensure held in Chicago, February 7-9.

The three-day meeting attracted an unexpectedly heavy attendance of more than 600 medical educators and licensing and specialty board officials. The Congress was sponsored by the American Medical Association's Council on Medical Education and Hospitals, the Federation of State Medical Boards of the United States and the Advisory Board for Medical Specialties.

"The infiltration of the medical profession of the United States by large numbers of doctors who have not been able to obtain a proper basic professional education is almost certain to lower the general level of practice in this country," Dr. Willard C. Rappleye, New York, Dean of Columbia University College of Physicians and Surgeons, told the meeting.

"The numbers coming in are so large that they cannot readily be absorbed without that effect."

Dr. Rappleye pointed out that the United States government, in fostering international good will, is admitting large numbers of displaced persons, including physicians about whose professional ability no questions are asked. More will be admitted by recent legislation which permits the entrance of several hundred thousands of immigrants above previous quotas, he said.

He added that unless this situation is met "with courage and the conviction that we shall not surrender the results of 40 years of effort in raising the standards of medical licensure, practice and education," we may revert to conditions resembling those of 50 years ago.

Dr. Stiles D. Ezell, Albany, secretary of the New York Board of Medical Examiners, also called attention to the inadequacy of the medical training of most of the foreign doctors seeking to practice in the United States.

Dr. Ezell said that except for Great Britain and the Scandinavian countries the last war brought destruction and degeneration to European medical education.

"Even before the elimination of the last of the unapproved medical schools in this country, there had begun a migration of physicians to this country which has now reached a total of more than 20,000," he stated. "The challenge in this fact is that the profession has not been prepared to understand what is involved in such a massive movement, nor has it realized the numerous deficiencies involved in the collective educational background of this group."

He pointed out that large numbers of foreign graduates have completed specialized training without any consideration of the deficiencies in their basic medical training or their eligibility for licensure.

Dr. Edward L. Turner, Chicago, secre-

tary of the Council on Medical Education and Hospitals, recommended the adoption of a uniform plan for screening the professional competence of foreign-trained doctors.

Such a uniform procedure, Dr. Turner said, would be of greater assistance to state medical licensing boards than the present attempts to evaluate and list foreign medical schools. He pointed out that there are problems and difficulties in evaluating foreign medical schools which are "almost insurmountable."

Dr. Edward J. McCormick, Toledo, president of the A. M. A., told the meeting that it was the responsibility of medical educators to instill a proper sense of moral values into the minds of medical students.

"Whether this is done by adding courses in ethics and moral principles to the curriculum, or through the medium of after-hours discussion groups, is a problem for the deans of medical schools to decide," Dr. McCormick said. "But, I am convinced that some concerted effort in this direction needs to be made."

He also expressed the opinion that a liberal arts background should be included in the pre-medical training of young doctors.

The financing of medical education was touched upon by two speakers. William C. Stolk, New York, president of the American Can Company and a trustee of the National Fund for Medical Education, reported that management is becoming alert to the vital significance of the 79 medical schools. Mr. Stolk said that business is accepting increased responsibility in helping to maintain high health standards and it realizes that financially solvent medical schools are a necessity.

Dr. Louis H. Bauer, New York, president of the American Medical Education Foundation, said that physicians contributed $1,090,771 to the foundation in 1953, passing the million dollar mark for the first time. The 1954 goal was set at $2,000,000. There were 17,809 individual contributions last year, an increase of 149 per cent over 1952, Dr. Bauer reported.

Dr. H. G. Weiskotten, Skaneateles, N. Y., chairman of the Council on Medical Education and Hospitals, reviewed the 50 years' history of the Council. Dr. Weiskotten cited the progress in medical education and said that a new era was being entered—experimentation in undergraduate, graduate and postgraduate training of physicians without losing any of the gains already made.

A fast-growing interest in postgraduate education was reported by Dr. Douglas D. Vollan, Chicago, a staff member of the Council on Medical Education and Hospitals. Presenting a preliminary report of a survey of postgraduate education by the Council, Dr. Vollan said that responses from about 5,000 physicians out of 17,000 chosen at random indicated that they spent an average of 83.3 eight-hour days a year in keeping themselves up to date.

The methods used are (1) medical reading, (2) professional contacts with colleagues in consultations or other means, (3) hospital staff meetings, (4) attendance and participation in medical society meetings, and (5) postgraduate courses.

Speaking on medical legislation, Dr. John N. McCann, Youngstown, O., retiring president of the Federation of State Medical Boards of the United States, said physicians must be brought to realize that a basic license to practice issued by a responsible state board is the sole guarantee of legal practice, not the examination given by a specialty board.

Dr. Frank B. Berry, Washington, assistant secretary of defense (health and medical), reported that the armed services need about twice as many medical officers as they now have, and that they hope to persuade graduates to take up such service as a career. Dr. Berry also said that "the chances are that from August to October, 1954, there will be a considerable number of doctors called into the armed services."

A panel on professional orientation brought out general agreement that most medical school graduates enter active practice with inadequate preparation and

training in ethics, medical economics, doctor-patient relationships and social problems. Medical schools have the primary responsibility of providing such teaching, the panel members concluded, but they should have the help of medical societies and physicians in active practice.

Medical education should be regarded as a continuing process which lasts throughout a physician's professional career, rather than as something which is completed when a doctor receives his M. D. degree and his license to practice, it was stressed throughout a panel discussion on postgraduate medical education. Two problems which received special emphasis were how to reach physicians in small towns remote from medical centers and how to stimulate those who have no desire to leave their practice for postgraduate courses.

Medical societies have a definite responsibility to sponsor and advance postgraduate education in order to improve the caliber of medical service to the public, it was emphasized by one panel member. Another urged that teachers of postgraduate courses should have adequate previous experience to appreciate the needs of active practitioners. A third participant suggested that there is a rich area for experimentation in the field of home-study courses. There was general agreement on the need and value of participative courses which enable postgraduate students to work closely with teachers and patients in the demonstration of clinical problems.

The distribution of physicians in the United States is extraordinarily good, according to Frank G. Dickinson, Ph. D., Chicago, director of the A. M. A. Bureau of Medical Economic Research, who made a preliminary report of a seven-year survey based on a division of the country into 757 trading areas.

Dr. Dickinson reported that every town with a population of more than 5,000 had at least one physician in active practice, as had 96 per cent of those with a population between 2,500 and 5,000; 88.3 per cent of those with a population of between 1,000 and 2,500, and 21 per cent of those with a population between 100 and 1,000. More than half of the latter group had less than 250 inhabitants. Only one-sixth of one per cent of the population lived outside a 25-mile radius of the closest town with a physician in active practice, he said.

State medical practice acts show a wide variance, it was reported by George E. Hall, Chicago, staff associate of the A. M. A.'s Bureau of Legal Medicine and Legislation. Differences exist, Mr. Hall said, in such matters as the method of appointment of licensing boards, the membership of such agencies, the type of examinations, the requirements of professional skill, the reasons for revoking of licenses, the exemptions from the acts, and reciprocity.

"Lack of uniformity in the medical practice acts is nothing new," he pointed out. "Few people realize the extent because these laws have been so ably administered that a large measure of practical uniformity has actually been achieved."

Nevertheless, he urged, efforts should be made to obtain uniformity in the laws.

A committee headed by Dr. Bruce Underwood, Louisville, secretary of the Kentucky State Board of Health, suggested that a uniform Medical Practice Act be developed and be submitted next year.

The relationship of hospital internship to licensure was described by Dr. S. Howard Armstrong, Chicago, director of medical education at the Cook County Hospital. Aura E. Severinghaus, Ph. D., New York, associate dean of Columbia University College of Physicians and Surgeons, presented highlights of a survey on preprofessional education.

Dr. George W. Covey, Lincoln, Neb., a former member of the Nebraska Board of Medical Examiners, reviewed recent developments involving a possible recognition of osteopathy and concluded that the practice was still a cult.

The president of the Advisory Board for Medical Specialties, Dr. Robert A. Moore, St. Louis, called upon specialty boards to

assume a greater leadership in the improvement of medical practice.

Dr. John C. Leonard, Hartford, Conn., director of medical education at the Hartford Hospital, said nonuniversity hospitals must be kept abreast of medical developments. Dr. Leonard urged the maintenance of a sound program of graduate training

A new test technique to make the oral or practical licensure examination more objective and more easily analyzed was recommended by John T. Cowles, Ph. D., Princeton, N. J., of the Educational Testing Service. Dr. Cowles said effort has been focused almost exclusively upon the improvement of the written examination, to the detriment of the oral and practical tests.

Dr. Ford K. Hick, Chicago, professor of medicine at the University of Illinois College of Medicine, presented the problems of specialty training in nonuniversity hospitals.

Dr. Turner reported that the Council on Medical Education and Hospitals and the executive council of the Association of American Medical Colleges have compiled a list of 39 foreign schools which provide basic medical education on a par with that of approved schools in the United States, but said there are more than 550 medical schools in the world.

He said that while the council has endeavored to indicate that the absence of a school from this current listing does not indicate either approval or disapproval, but means primarily lack of adequate information, the absence of listing frequently serves to deny a graduate the right to examination before a state board.

"It seems advisable that there should be a careful analysis of state medical practice acts with serious consideration being given to the cooperative development of some commonly acceptable yardstick or screening mechanism to evaluate competence of the foreign graduate," Dr. Turner stated.

He suggested that the National Board of Medical Examiners could become a highly effective aid to state boards in determining whether foreign-trained physicians were eligible for further state board consideration for licensure. The National Board, at the request of the state board, could conduct the examination for professional competency, and the state board could then determine if the candidate met other requirements for licensure, he added.

We do not agree with Dr. Turner in his claim that the National Board of Medical Examiners could become a highly effective aid to State examining boards in the evaluation of foreign-trained physicians for eligibility and further consideration by State Boards for licensing these foreign-born and wholly inadequately trained medical applicants who are trying to force themselves on our people. This National Board could be responsible, in our opinion, for certification of inadequately trained and poorly qualified physicians by the very nature of their examinations and methods of certification.

Why, then, should the respective State examining boards accept these men recommended by the National Examining Board without examination by the State Board? Licensing physicians to practice in our State is the responsibility of the State Board of Medical Examiners, and the citizens of our State and the legislators who placed this responsibility on our Board look to them for protection of our people so far as good medicine is concerned. If they fail in this duty entrusted to them, the National Examining Board would not be held accountable, for certification of incompetent applicants, but the members of the Louisiana State Board of Medical Examiners will be answerable for their deficiencies in carrying out the mandates of the people to furnish our citizens with qualified physicians, who can and will furnish them with good medical care. Our Board is composed of well qualified practicing physicians, who have been in active practive in our State for many years and know the needs of our citizens and have a personal interest and pride in seeing that they get good medical care. The members of the National Board, do

not and can not enjoy this keen interest in the welfare of our people, and are not held accountable to the home people for the proper execution of a legislative act describing their duties and responsibilities. We believe in states rights and do not feel that any national board of medical examiners should supersede the duly and legally delegated State Boards. Woe be the day, when such a situation, rules in our State.

At the annual meeting of the Federation of State Medical Boards, Dr. Elmer W. Schnoor, Grand Rapids, Mich., was installed as president to succeed Dr. McCann. Dr. M. H. Crabb, Fort Worth, was elected president-elect; Dr. K. D. Graves, Roanoke, Va., vice-president, and Dr. Walter L. Bierring, Des Moines, secretary-treasurer for the 40th year.

The executive committee chosen consists of Dr. McCann; Dr. Joseph J. Combs, Raleigh, N. C.; Dr. C. J. Glaspel, Grafton, N. D., and Dr. Gerald D. Murphy, Jr., El Dorado, Ark.

MEDICAL NEWS SECTION

CALENDAR

PARISH AND DISTRICT MEDICAL SOCIETY MEETINGS

Society	Date	Place
East Baton Rouge	Second Tuesday of every month	Baton Rouge
Morehouse	Third Thursday of every month	Bastrop
Natchitoches	Second Tuesday of every month	
Orleans	Second Monday of every month	New Orleans
Ouachita	First Thursday of every month	Monroe
Rapides	First Monday of every month	Alexandria
Sabine	First Wednesday of every month	
Second District	Third Thursday of every month	
Shreveport	First Tuesday of every month	Shreveport
Vernon	First Thursday of every month	

MEETINGS

CHILD RESEARCH CLINIC OF THE WOODS SCHOOLS

The Woods Schools of Langhorne, Pennsylvania, will hold the 1954 Spring Conference of the Child Research Clinic, in three sessions, at New Orleans, April 9 and 10, on "The Adolescent Exceptional Child, a Realistic Approach to Treatment and Training." The first session will be on Friday, April 9, at 8:00 P. M. in Hutchinson Memorial auditorium. The second and third will be held in the Tulane Room of the Jung Hotel from 10:00 to 12:00 in the morning and from 2:00 to 4:00 in the afternoon.

Further details may be obtained from Mr. Richard Roley, The Woods Schools, Langhorne, Pennsylvania.

INTERNATIONAL ACADEMY OF PROCTOLOGY

All physicians are cordially invited to attend the Sixth Annual Convention of the International Academy of Proctology to be held at the Palmer House, Chicago, Illinois, April 8, 9, 10 and 11th, 1954.

An extensive Motion Picture Seminar of Proctologic Surgery (including office techniques) will be held on April 11th, 1954. All scientific papers will present the latest developments in proctology and gastroenterology.

Because general practitioners, as well as gastroenterologists and proctologists, face proctologic problems in their daily practice, much of the program has been planned to answer their questions.

There is no fee for attendance at the Annual Convention of the International Academy of Proctology. These Conventions, as well as all other activities of the Academy, are directed toward the further development of proctology. All physicians interested in proctology are therefore invited and welcomed to the Annual Meeting.

The program will be available in the near future, upon request to the Executive Office of the International Academy of Proctology, 43-55 Kissena Boulevard, Flushing, New York.

AMERICAN GOITER ASSOCIATION

The 1954 meeting of the American Goiter Association will be held at the Somerset Hotel, Boston, Massachusetts, April 29, 30 and May 1. The program for the three day meeting will consist of papers and discussions dealing with the physiology and diseases of the thyroid gland.

AMERICAN GERIATRICS SOCIETY

The American Geriatrics Society will hold its

11th annual meeting, June 17-19, 1954, at the Fairmont Hotel in San Francisco, just preceding the meeting of the American Medical Association. Hotel reservations should be made through the San Francisco Convention and Visitors Bureau, 200 Civic Auditorium, San Francisco 2. Members should reserve accommodations immediately, stating time of arrival and departure date, because the hotels expect to be filled to capacity.

AMERICAN SOCIETY OF MEDICAL TECHNOLOGISTS

The 22nd annual national convention of the American Society of Medical Technologists will be held at Miami Beach, Florida, June 13-17, 1954. The co-headquarters hotels are the Delano and DiLido. For further information, contact Co-chairman, Publicity Committee, Jackson Memorial Hospital, Miami, Florida.

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FREE-LOAN MEDICAL FILMS

A select list of Medical films available only to professional audiences may now be obtained free of charge upon request directed to The Princeton Film Center, Inc., Princeton, N. J. All films listed are 16mm (some silent—some sound)—many in color—including such useful subjects as "FRACTURES: AN INTRODUCTION" and "ANOMALIES OF THE BILE DUCTS."

These films are designed for use before student groups as well as by more advanced audiences in the medical profession.

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SURGICAL APPLIANCE TECHNICIAN'S HANDBOOK

Around March 1, 1954, Dr. Howard L. Boyland will release the first edition of THE SURGICAL APPLIANCE TECHNICIAN'S HANDBOOK.

Dr. Boyland is the medical director for Surgical Appliance Industries, Inc., of Cincinnati, Ohio, whose president, Mr. William Pease, and vice-president, Mr. I. M. Pease, have for many years felt the need of such a handbook for the Surgical Appliance trade. Though these executives of the company have been largely instrumental in having the book published, they have insisted that no commercial references be made to their own specific lines. Each dealer and fitter will find this book extremely helpful no matter whose line of surgical appliances he carries.

This handbook actually is the first comprehensive work to be published in the surgical appliance field in more than forty years. In fact, no such textbook and reference guide has ever been available to the surgical appliance dealer or fitter.

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WOMAN'S AUXILIARY TO THE LOUISIANA STATE MEDICAL SOCIETY

STATE NEWS

Woman's Auxiliary to the Louisiana State Medical Society had their midwinter meeting and luncheon at the Orleans Club. Mrs. Edwin A. Socola presided. Mrs. H. Theodore Simon was chairman in charge of arrangements. Reports were made by attending parish presidents and representatives, and committee chairmen. Among those attending were Mmes. C. Grenes Cole, George Taquino, Louis Leggio, Jules Myron Davidson, Edwin Guidry, John Tanner, George Haik, George D. Feldner, John S. Dunn, Daniel J. Murphy, Monte Meyer, Robert E. Rougelot, Jr., Albert Habeeb, and Paul Lacroix all of New Orleans; Mmes. Arthur J. Herold, Whitney Boggs, Joseph E. Heard and C. Elmo Boyd of Shreveport; Mmes. Marcus C. Wiginton and S. J. Cali of Hammond; Mmes. Arthur D. Long, H. Guy Riche, Jr., Charles Prosser, Julius Muller, Jacob O. Hoth and James J. LaNasa all of Baton Rouge; Mmes. D. B. Barber, John Rozier, Milton S. Freeman, of Alexandria; Mmes. Ralph Talbot, Najeeb Klam and Mrs. DeWitt T. Milam of Monroe; Mrs. Rhodes Spedale, Plaquemine; Mrs. Fred Wild, Destrehan; Mrs. W. A. K. Seale, Sulphur; and Mmes. Walter Moss, P. L. McCreary and R. P. Howell of Lake Charles; and Mrs. Roy Carl Young, Covington.

IBERIA PARISH

The Iberia Auxiliary are at work on plans for financing a scholarship to send a deserving girl through nurse's training. This year more than ever they are taking an active interest in Red Cross work and in the Polio and Cancer Fund Drives. They have contributed much of their time to the blood bank and work at the Crippled Children's Clinic and with preschool examinations.

OUACHITA PARISH

Mrs. Cyril Yancey, essay contest chairman, reported at a recent meeting that all the high schools in Monroe and West Monroe, both white and colored, have been supplied with material relating to the national essay contest on "Why the Private Practice of Medicine Furnishes this Country with the Finest Medical Care." The response has been most satisfactory.

Mrs. Ralph Talbot, chairman of nurses recruitment committee, announces that a future nurse's club has been organized at Ouachita Parish High School with thirty members. Mrs. Clifton Flinn will serve as sponsor to this group. Plans are now underway to have a club at Neville.

Mrs. Najeeb Klam, president, said that $175 has been budgeted by the auxiliary for the nurse's scholarship fund and $50 for the A. M. A. Educational Foundation.

On December 10, Mrs. Edwin Socola, state president, was honored at a tea.

EAST BATON ROUGE

Mrs. Guy Riche, Jr., president, reports that their auxiliary in a drive for new members appointed a committee headed by Mrs. Sidney Mack to mail a letter to each doctor's wife in their parish inviting them to attend meetings and become members. The response was very good and many new members were enrolled. A panel discussion of "Know your Auxiliary" was held at the December meeting.

Mrs. Edwin A. Socola, state president, and Mrs. Marcus Wiginton, state president-elect, were honored at a luncheon meeting.

Mrs. Riche further reports that name tags are used at each meeting and this method has helped both the old and new members to get better acquainted. Mrs. D. W. Landess was appointed parliamentarian to replace the unfilled term of Mrs. Bryan Luikart. For this coming year the East Baton Rouge auxiliary have adopted the following state and national projects and have formed committees to carry out the work: Cancer Control, Doctor's Day, Voluntary Prepayment Plan, Commemoration Fund, Student Nurse Recruitment, Preservation of Medical Cultural Items, Civil Defense, Health Education, Legislation and American Medical Education Foundation Fund. Under the leadership of Mrs. Marion Kepfler and with the help of Mrs. Wiley Dial, the auxiliary has established a Nursing Scholarship at each of the two hospitals to which a sum of $400 was donated.

East Baton Rouge's Auxiliary has great plans for Doctors Day. Mrs. William Liukart and Mrs. Julius Mullins are co-chairmen for this event. At their last meeting Mrs. Dean Geheber, treasurer, reported that membership has been increased to 115 members.

The "Today's Health" committee headed by Mrs. William Derr sent a year's subscription to the magazine to each of the public and parochial schools in the parish.

BOOK REVIEWS

Contact Dermatitis; by George L. Waldbott, M. D., Springfield, Ill. Charles C. Thomas, (Amer. Lect. series Pub. no. 133) Price $8.75.

Presented is a new approach to the rapid diagnosis of contact dermatitis through the study of patterns on the skin. The author has dealt only with the practical aspects of contact dermatitis and purposely avoids detailed analysis of the chemicals involved. Allergists, dermatologists, and general practitioners will find this volume a veritable guide in the office. The text is so worded that, with the aid of an extensive glossary, patients may read the descriptions and thereby help the clinician to arrive at a diagnosis. Photographs of contacts with offending allergens are correlated conveniently on the same plate, thereby aiding the patient to develop insight. In the reviewer's experience with this book, it is not uncommon for the patient to discover the offending material through study of these patterns while awaiting examination and interrogation. Although much of the text is elementary in medicolegal industrial dermatology, the clinician, specialist, or others, will find this volume a time-saver in their practice.

JAMES W. BURKS Jr. M. D.

Principles, Problems, and Practices of Anesthesia for Thoracic Surgery; by Henry K. Beecher, M. D., Springfield, Illinois, Charles C. Thomas 1952, pp. 65. $2.50.

This monograph, which is one of the American Lecture Series, has been prepared by a recognized authority in the field of anesthesiology, both experimental and clinical. Dr. Beecher presents not only the problems which concern and vex the anesthetist, but he also gives a review of respiratory physiology and practical problems with which every surgeon who enters the chest is necessarily concerned. Preanesthetic preparation, the matter of positioning of the patient, the respiratory and circulatory problems which must be dealt with during operation, and postoperative precautions and management are all presented in a very concise and lucid manner.

AMBROSE H. STORCK, M. D.

Pain Syndromes and Their Treatment; by James M. Tarsy, Springfield, Illinois, Charles C. Thomas, 1953. Pp. 592. Price $12.00.

This is a well written book on the pain syndromes and their treatment. The majority of the syndromes covered are encountered with regularity by the general practitioner. The author has placed particular emphasis on proper examination and diagnostic methods and criteria. In his sections on therapy he discusses and illustrates various physiotherapeutic measures. The subject matter is well organized and should be useful to the specialist as well as to the general practitioner.

CHARLES C. ABBOTT, M. D.

PUBLICATIONS RECEIVED

Doubleday & Company, Inc., N. Y.: Children for the Childless, edited by Morris Fishbein, M. D.

Philosophical Library, N. Y.: Music Therapy, edited by Edward Podolsky, M. D.; Understanding the Japanese Mind, by James Clark Moloney, M. D.

W. B. Saunders Co., Phila.: Thoracic Surgery, by Richard H. Sweet, M. D. (2nd Edit.)